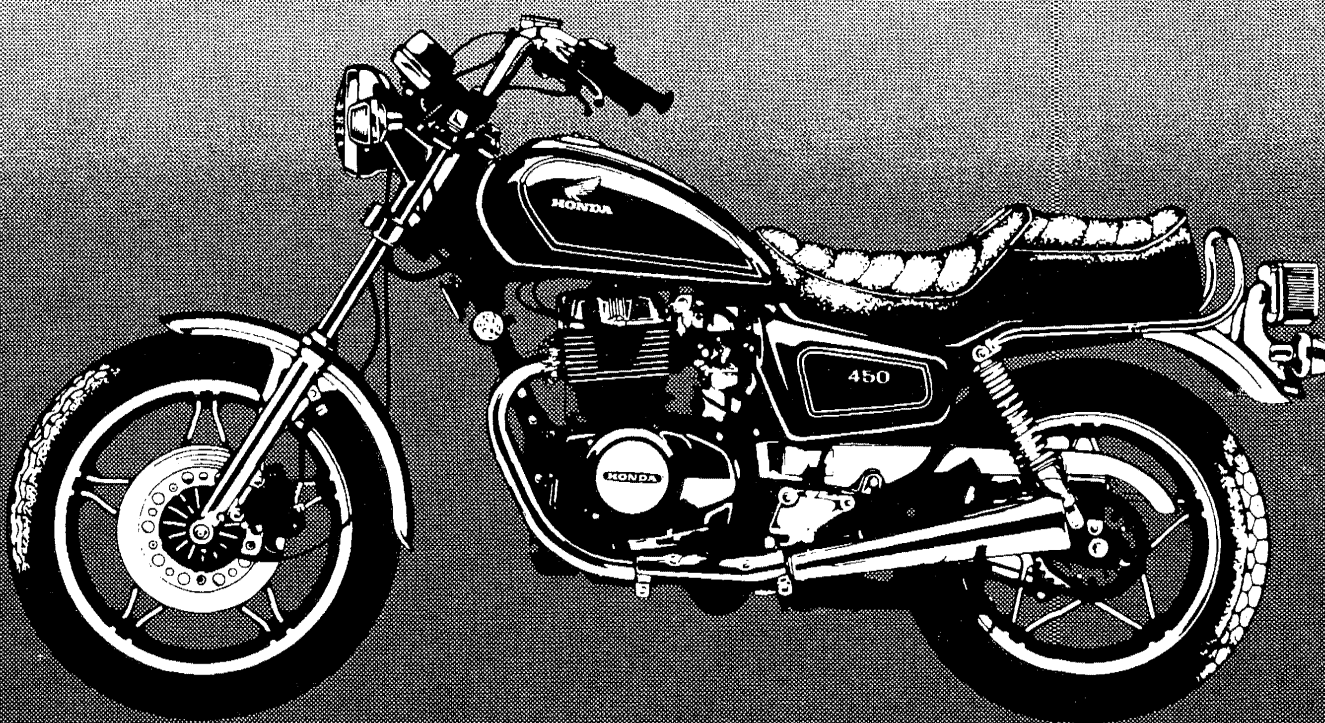


Official

HONDA

SHOP MANUAL

CB/CM450'S



'82, '83, '85

IMPORTANT SAFETY NOTICE

 **WARNING** Indicates a strong possibility of severe personal injury or loss of life if instructions are not followed.

CAUTION: Indicates a possibility of personal injury or equipment damage if instructions are not followed.

NOTE: Gives helpful information.

Detailed descriptions of standard workshop procedures, safety principles and service operations are not included. It is important to note that this manual contains *some* warnings and cautions against some specific service methods which could cause **PERSONAL INJURY** to service personnel or could damage a vehicle or render it unsafe. Please understand that those warnings could not cover all conceivable ways in which service, whether or not recommended by Honda might be done or of the possible hazardous consequences of each conceivable way, nor could Honda investigate all such ways. Anyone using service procedures or tools, whether or not recommended by Honda *must satisfy himself thoroughly* that neither personal safety nor vehicle safety will be jeopardized by the service method or tools selected.



HONDA CB/CM450'S

HOW TO USE THIS MANUAL

Follow the Maintenance Schedule recommendations to ensure that the vehicle is in peak operating condition and the emission levels are within the standards set by the U.S. Environmental Protection Agency. Performing the first scheduled maintenance is very important. It compensates for the initial wear that occurs during the break-in period.

Sections 1 through 3 apply to the whole motorcycle, while sections 4 through 21 describe parts of the motorcycle, grouped according to location.

Find the section you want on this page, then turn to the table of contents on page 1 of that section.

Most sections start with an assembly or system illustration, service information and troubleshooting for this section. The subsequent pages give detailed procedures.

If you don't know the source of the trouble, go to section 23, TROUBLESHOOTING.

The '82 CB450SC service information is in section 24.

1983 CB/CM450 service information is in section 25.

NOTE:

There were no 1984 CB/CM450 models manufactured.

The '85 CB450SC service information is in section 26.

All information, illustrations, directions and specifications included in this publication are based on the latest product information available at the time of approval for printing. Honda Motor Co., Ltd. reserves the right to make changes at any time without notice and without incurring any obligation whatever.

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HONDA MOTOR CO., LTD.
Service Publications Office

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1

GENERAL SAFETY

WARNING

If the engine must be running to do some work, make sure the area is well-ventilated. Never run the engine in a closed area. The exhaust contains poisonous carbon monoxide gas.

WARNING

Gasoline is extremely flammable and is explosive under certain conditions. Do not smoke or allow flames or sparks in your working area.

WARNING

The battery electrolyte contains sulfuric acid. Protect your eyes, skin and clothing. In case of contact, flush thoroughly with water and call a doctor if your eyes were exposed.

WARNING

The battery generates hydrogen gas which can be highly explosive. Do not smoke or allow flames or sparks near the battery, especially while charging it.

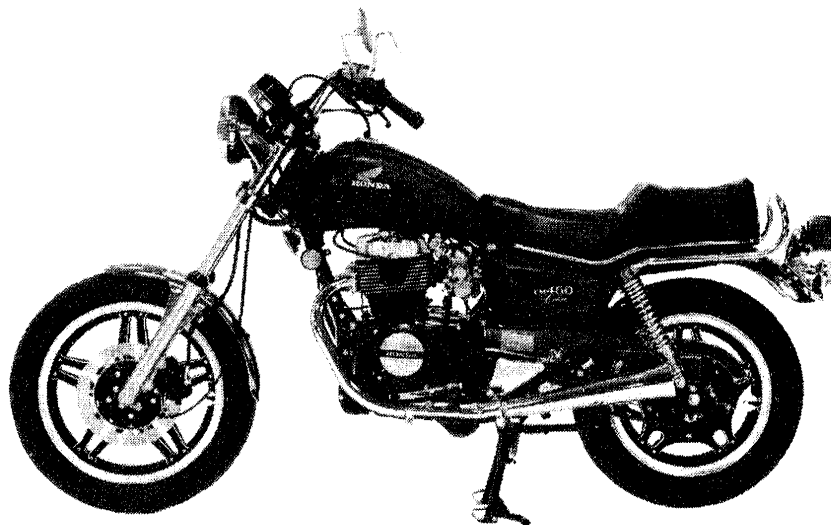
SERVICE RULES

1. Use genuine HONDA or HONDA-recommended parts and lubricants or their equivalent. Parts that don't meet HONDA's design specifications may damage the motorcycle.
2. Use the special tools designed for this product to avoid damage and incorrect assembly.
3. Use only metric tools when servicing this motorcycle. Metric bolts, nuts, and screws are not interchangeable with English fasteners.
4. Install new gaskets, O-rings, cotter pins, lock plates, etc. when reassembling.
5. When torquing bolts or nuts, begin with larger-diameter or inner bolts first, and tighten to the specified torque diagonally in 1-4 steps, unless a particular sequence is specified.
6. Clean parts in non-flammable or high flash point solvent upon disassembly.
7. Lubricate any sliding surfaces before reassembly.
8. After reassembly, check all parts for proper installation and operation.



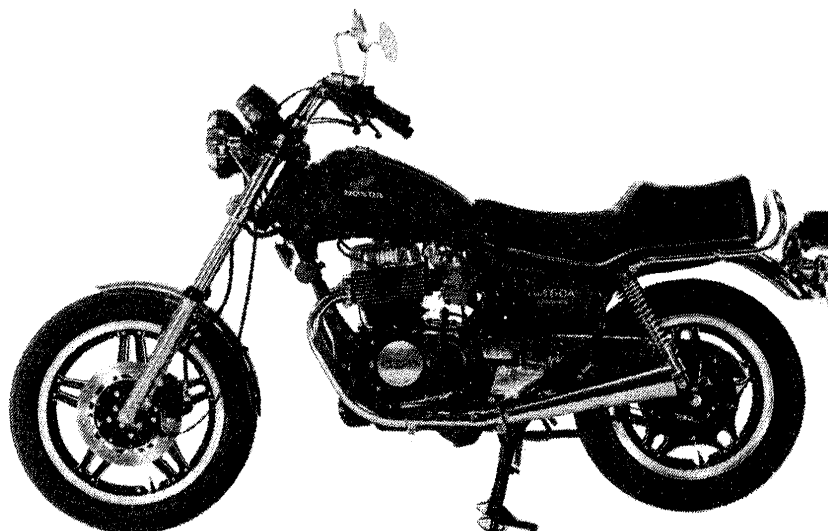
MODEL IDENTIFICATION

CM450C



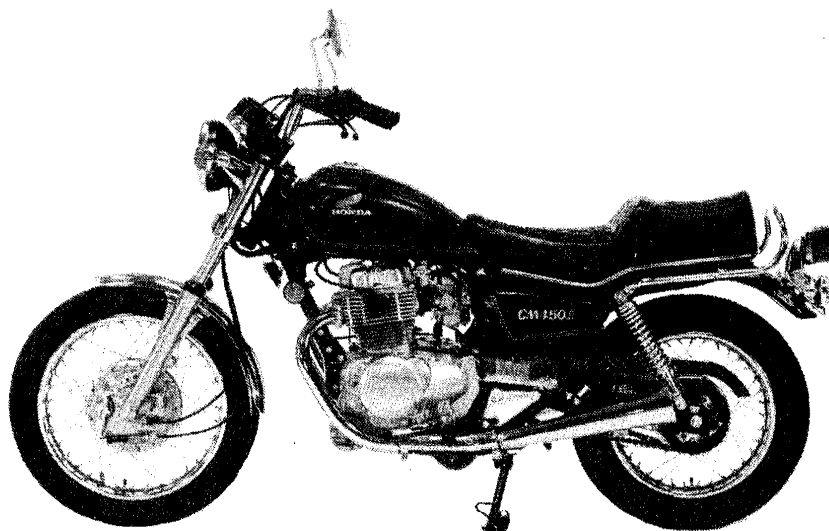
BEGINNING WITH F No. PC051*CM000001

CM450A



BEGINNING WITH F No. PC052*CM000001

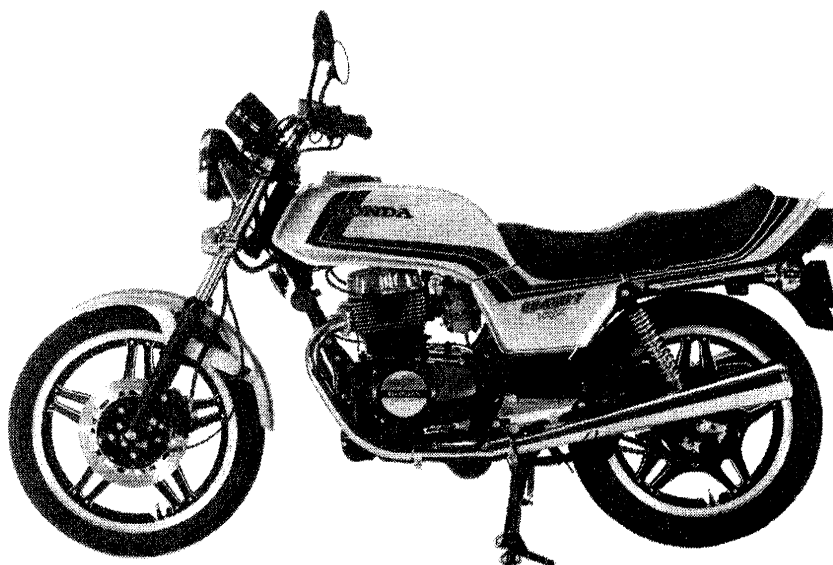
CM450E



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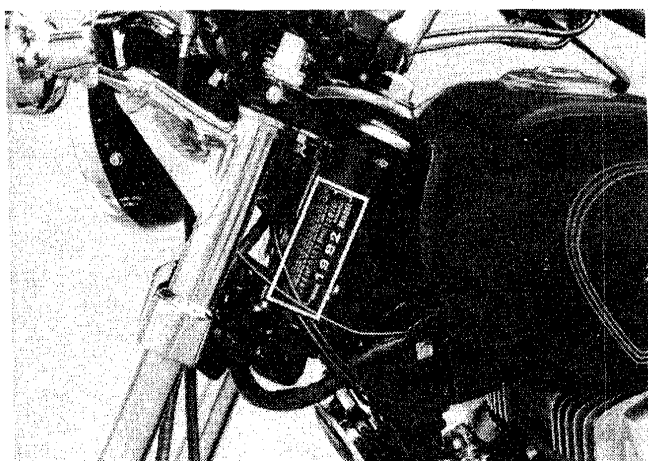


CB450T



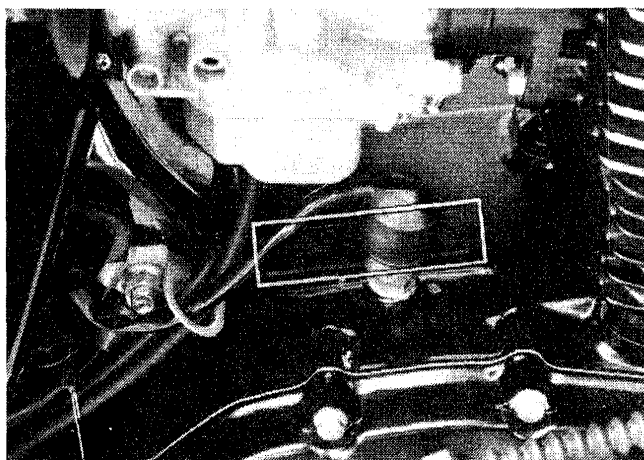
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DATE OF MANUFACTURE



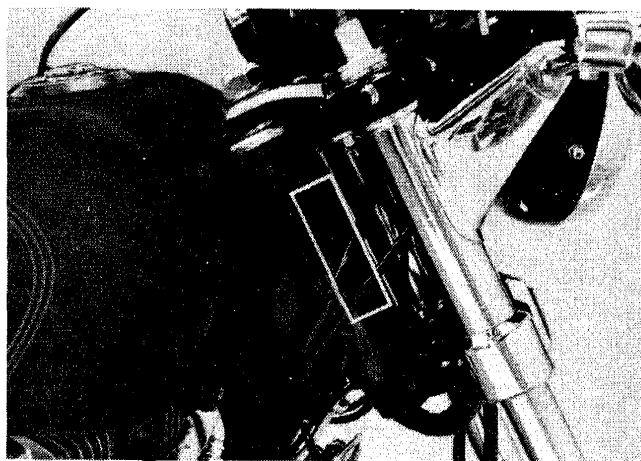
The vehicle identification number (VIN) is on the left side of the steering head.

ENGINE SERIAL NUMBER



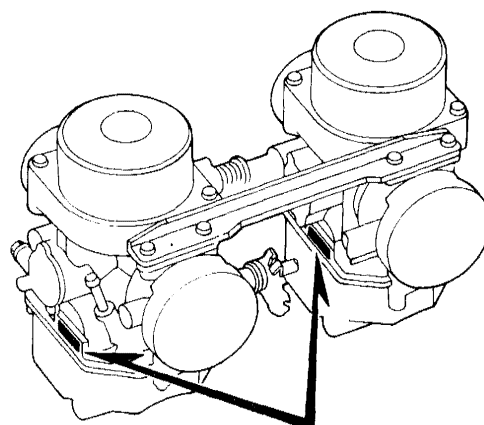
The engine serial number is stamped on the top of the crank case.

FRAME SERIAL NUMBER



The frame serial number is stamped on the right side of the steering head.

CARBURETOR IDENTIFICATION NUMBER



IDENTIFICATION NUMBER

The carburetor identification number is stamped on the left side of the carburetor body.

SPECIFICATIONS

CB450T/CM450C				CB450T		CM450C	
	Item			Metric	English	Metric	English
Dimensions	Overall length			2,085 mm	82.1 in	2,145 mm	84.4 in
	Overall width			805 mm	31.7 in	855 mm	33.7 in
	Overall height			1,130 mm	44.5 in	1,180 mm	46.5 in
	Wheel base			1,390 mm	54.7 in	1,450 mm	57.1 in
	Seat height			790 mm	31.1 in	775 mm	30.5 in
	Foot peg height	Right		320 mm	12.6 in	325 mm	12.8 in
		Left		320 mm	12.6 in	325 mm	12.8 in
	Ground clearance			165 mm	6.5 in	155 mm	6.1 in
	Dry weight			171 kg	377 lbs	174 kg	383.6 lbs
Frame	Type			Diamond		←	
	Front suspension and travel			Telescopic air fork, 140 mm (5.5 in)		←	
	Rear suspension and travel			Swing arm 96 mm (3.8 in)		Swing arm, 75.9 mm (3 in)	
	Front tire size			3.60S19—4PR (Tubeless)		3.50S18—4PR (Tubeless)	
	Rear tire size			4.10S18—4PR (Tubeless)		4.60S16—4PR (Tubeless)	
	Cold tire pressures	Up to 90 kg (200 lbs) load	Front	200 kPa (2.0kg/cm ² , 28 psi)		←	
			Rear	200 kPa (2.0kg/cm ² , 28 psi)		←	
		Up to vehicle capacity load	Front	200 kPa (2.0kg/cm ² , 28psi)		←	
			Rear	250 kPa (2.5kg/cm ² , 36 psi)		←	
	Front brake			Disc brake		←	
	Rear brake			Internal expanding shoes		←	
	Fuel capacity			13 lit.	3.4 U.S. gal, 2.8 Imp gal	13 lit.	3.4 U.S. gal, 2.8 Imp gal
	Fuel reserve capacity			3.0 lit.	0.8 U.S. gal, 0.6 Imp gal	2.0 lit.	0.50 U.S. gal, 0.42 Imp gal
	Caster angle			63°00'		59°00'	
	Trail length			100 mm	3.9 in	114 mm	4.5 in
Front fork oil capacity (at assembly)			187 cc	6.3 oz	220 cc	7.4 oz	
Engine	Type			Air cooled 4-stroke OHC engine		←	
	Cylinder arrangement			Vertical twin, parallel		←	
	Bore and stroke			75 x 50.6 mm	(2.95 x 1.99 in)	←	
	Displacement			447 cc	(27.3 cu-in)	←	
	Compression ratio			9.1 : 1		←	
	Valve train			Chain driven over head camshaft		←	
	Oil capacity			3.0 lit. (3.2 U.S. qt, 2.6 Imp qt)		←	
	Lubrication system			Forced pressure and wet sump		←	
	Cylinder compression			1,270±98kPa (13±1kg/cm ² , 185±14psi)		←	



	Item		CB450T	CM450C
Engine	Intake valve	Opens	57° BTDC (At 0 lift), 5° BTDC (At 1.0 mm lift)	
		Closes	87° ABDC (At 0 lift), 35° ABDC (At 1.0 mm lift)	
	Exhaust valve	Opens	90° BBDC (At 0 lift), 40° BBDC (At 1.0 mm lift)	
		Closes	55° ATDC (At 0 lift), 5° ATDC (At 1.0 mm lift)	
	Valve clearance (cold)	IN	0.10 mm (0.004 in)	←
		EX	0.14 mm (0.006 in)	←
Carburetion	Idle speed		1,200 ± 100 rpm	←
	Carburetor type		CV type, 30 mm (1.18 in)	
	Identification number		VB22L	VB22G
	Pilot screw initial opening		See page 4-12	See page 4-12
	Float level		15.5 mm (0.61 in)	←
Drive train	Clutch		Wet multi-plate	←
	Transmission		6-speed constant mesh	6-speed constant mesh
	Primary reduction ratio		2.960 : 1	←
	Gear ratio I		2.857 : 1	←
	Gear ratio II		1.947 : 1	←
	Gear ratio III		1.545 : 1	←
	Gear ratio IV		1.280 : 1	←
	Gear ratio V		1.074 : 1	←
	Gear ratio VI		0.931 : 1	0.867
	Final reduction ratio		2.250 : 1, (36/16)	2.000 : 1, (34/17)
Electrical	Gearshift pattern		Left foot operated return system	
	Ignition		Capacitive discharge ignition	
	Ignition timing	"F" mark	15° BTDC at 1,200 rpm idle	
		Full advance	43° BTDC ± 2° at 4,500 to 5,350 rpm	
	Starting system		Starter motor	
	Alternator		A.C. generator, 170W/5,000 rpm	
	Battery capacity		12 V, 12 AH	←
	Spark plug	Standard	X24ESR-U (ND) DR8ES-L (NGK)	←
		For cold climate (Below 5°C, 41°F)	X22ESR-U (ND) DR7ES (NGK)	←
		For extended high speed riding	X27ESR-U (ND) DR8ES (NGK)	←
Lights	Spark plug gap		0.6–0.7 mm (0.024–0.028 in)	←
	Headlight (low/high beam)		35/50 W	←
	Tail/stoplight		3/32 cp	SAE NO. 1157
	Turn signal (front/rear)		32/32 cp	SAE NO. F. 1034, R. 1073
	Speedometer light		2 cp	SAE NO. 57
	Tachometer light		2 cp	SAE NO. 57
	Neutral indicator		2 cp	SAE NO. 57
	Turn signal indicator		2 cp	SAE NO. 57
	High beam indicator		2 cp	SAE NO. 57
	Position light		3 cp	SAE NO. 1034

GENERAL INFORMATION



HONDA CB/CM450'S

CM450A/CM450E

CM450A/CM450E				CM450A		CM450E	
Item				Metric	English	Metric	English
Dimensions	Overall length			2,145 mm	84.4 in	2,110 mm	83.1 in
	Overall width			855 mm	33.7 in	←	
	Overall height			1,180 mm	46.5 in	1,155 mm	45.5 in
	Wheel base			1,450 mm	57.1 in	1,425 mm	56.1 in
	Seat height			775 mm	30.5 in	760 mm	29.9 in
	Foot peg height			325 mm	12.8 in	310 mm	12.2 in
	Ground clearance			155 mm	6.1 in	140 mm	5.5 in
	Dry weight			177 kg	390.2 lbs	168 kg	370.4 lbs
Frame	Type			Diamond		←	
	Front suspension and travel			Telescopic air fork, 140 mm (5.5 in) Semi air suspension		Telescopic fork, 140 mm (5.5 in)	
	Rear suspension and travel			Swing arm, 75.9 mm (3 in)		←	
	Front tire size			3.50S18—4PR (Tubeless)		3.50S18—4PR (Tube type)	
	Rear tire size			4.60S16—4PR (Tubeless)		4.60S16—4PR (Tube type)	
	Cold tire pressures	Up to 90 kg (200 lbs.) load	Front	200 kPa (2.0kg/cm ² , 28 psi)		175 kPa (1,75kg/cm ² , 24 psi)	
			Rear	200 kPa (2.0kg/cm ² , 28 psi)		←	
		Up to vehicle capacity load	Front	200 kPa (2.0kg/cm ² , 28 psi)		175 kPa (1.75kg/cm ² , 24 psi)	
			Rear	250 kPa (2.5kg/cm ² , 36 psi)		←	
	Front brake			Disc brake		Internal expanding shoes	
	Rear brake			Internal expanding shoes		←	
	Fuel capacity			13 lit.	3.4 U.S. gal, 2.8 Imp gal	13 lit.	3.4 U.S. gal, 2.8 Imp gal
	Fuel reserve capacity			2.0 lit.	0.50 U.S. gal, 0.42 Imp gal	2.0 lit.	0.50 U.S. gal, 0.42 Imp gal
	Caster angle			59°00'		61°00'	
	Trail length			114 mm	4.5 in	108 mm	4.25 in
Front fork oil capacity (at assembly)			220 cc	7.4 oz	135 cc	4.6 oz	
Engine	Type			Air cooled 4-stroke OHC engine		←	
	Cylinder arrangement			Vertical twin parallel		←	
	Bore and stroke			75 x 50.6mm	2.95 x 1.99 in	←	
	Displacement			447 cc	27.3 cu-in	←	
	Compression ratio			9.1 : 1		←	
	Valve train			Chain driven OHC		←	
	Oil capacity			3.3 lit.	3.5 U.S. qt, 2.9 Imp qt	3.0 lit.	3.2 U.S. qt, 2.7 Imp qt
	Lubrication system			Forced pressure and wet sump		←	
	Cylinder head compression pressure			1,270 ± 98 kPa (13 ± 1kg/cm ² , 185 ± 14 psi)		←	
	Intake valve	Opens	5° ATDC (At 1.0 mm lift), 39° BTDC (At 0 lift)		5° BTDC (At 1.0 mm lift), 57° BTDC (At 0 lift)		
		Closes	30° ABDC (At 1.0mm lift), 74° ABDC (At 0 lift)		35° ABDC (At 1.0mm lift), 87° ABDC (At 0 lift)		
	Exhaust valve	Opens	40° BBDC (At 1.0 mm lift), 94° BBDC (At 0 lift)		40° BBDC (At 1.0 mm lift), 90° BBDC (At 0 lift)		
		Closes	5° ATDC (At 1.0 mm lift), 49° ATDC (At 0 lift),		5° ATDC (At 1.0 mm lift), 55° ATDC (At 0 lift)		
	Valve clearance (cold)	IN	0.10 mm	0.004 in	←		
		EX	0.14 mm	0.006 in	←		
	Idle speed			1,250 ± 100 rpm		1,200 ± 100 rpm	

NEW



	Item		CM450A	CM450E
Carburetion	Carburetor type		CV, 28 mm (1.10 in)	CV, 30 mm (1.18 in)
	Identification number		VB24E	VB22J
	Pilot screw initial setting		See page 4-12	See page 4-12
	Float level		15.5 mm (0.61 in)	←
Drive Train	Clutch		—	Wet multi-plate
	Transmission		2-speed semi-automatic transmission with torque converter	6-speed constant mesh
	Primary reduction ratio		1.463 : 1	2.960 : 1
	Gear ratio I		2.923 : 1	2.857 : 1
	Gear ratio II		2.059 : 1	1.947 : 1
	Gear ratio III		—	1.545 : 1
	Gear ratio IV		—	1.280 : 1
	Gear ratio V		—	1.074 : 1
	Gear ratio VI		—	0.867 : 1
	Final reduction ratio		2.000 : 1	←
	Gearshift pattern		Left foot operated return system	←
Electrical	Ignition		Capacitive discharge ignition	←
	Ignition timing	"FN" mark	7.5° BTDC at 1,250 rpm idle speed (Transmission in neutral)	—
		"F" mark	15° BTDC at 1,250 rpm idle speed (Transmission in gear)	15° BTDC at 1,200 rpm idle speed
		Full advance	43° BTDC ± 2° at 4,500 to 5,350 rpm	43° BTDC ± 2° at 4,500 to 5,350 engine rpm
	Starting system		Starter motor and kick starter	Starter motor
	Alternator		A.C. generator, 170W/5,000 rpm	←
	Battery capacity		12 V, 12 AH	←
	Spark plug	Standard	X24ESR-U (ND) or DR8ES-L (NGK)	←
		For cold climate (Below 5°C, 41°F)	X22ESR-U (ND) or DR7ES (NGK)	←
		For extended high speed riding	X27ESR-U (ND) or DR8ES (NGK)	←
	Spark plug gap		0.6 – 0.7 mm (0.024 – 0.028 in)	←
				←
Lights	Headlight (low/high beam)		35/50 W	←
	Tail/stoplight		3/32 cp SAE NO. 1157	←
	Turn signal light (Front/Rear)		32/32 cp SAE NO. F. 1034 R. 1073	←
	Speedometer light		2 cp SAE NO. 57	←
	Parking brake warning light		2 cp SAE NO. 57	←
	Turn signal indicator light		2 cp SAE NO. 57	←
	High beam indicator light		2 cp SAE NO. 57	←
	Position light		3 cp SAE No. 1034	←
	Neutral indicator light		2 cp SAE NO. 57	←
	Shift position light (3)		2 cp SAE NO. 57	←
	Oil pressure light		2 cp SAE NO. 57	←
				←

**TORQUE VALUES****ENGINE**

ITEM	Q'TY	THREAD DIA., mm	TORQUE, N-m (kg-m, ft-lb)
Cylinder head cover	2	6	8 - 12 (0.8 - 1.2, 6 - 9)
Cylinder head bolt	8	10	30 - 33 (3.0 - 3.3, 22 - 24)
Valve adjusting screw lock nut	6	6	12 - 17 (1.2 - 1.7, 9 - 12)
Cam sprocket	2	7	18 - 22 (1.8 - 2.2, 13 - 16)
Clutch center lock nut	1	20	45 - 50 (4.5 - 5.0, 33 - 36)
Primary drive gear	1	12	45 - 50 (4.5 - 5.0, 33 - 36)
Crankcase 8 mm bolt	1	8	20 - 30 (2.0 - 3.0, 15 - 22)
Oil filter center bolt	1	20	28 - 32 (2.8 - 3.2, 20 - 23)
Oil drain bolt	1	14	25 - 35 (2.5 - 3.5, 18 - 25)
Crankshaft bearing holder 10 mm bolt	6	10	33 - 37 (3.3 - 3.7, 24 - 27)
Balancer stopper plate 8 mm	1	8	20 - 25 (2.0 - 2.5, 15 - 18)
10 mm	1	10	30 - 35 (3.0 - 3.5, 22 - 25)
Connecting rod bearing cap	4	8	25 - 29 (2.5 - 2.9, 18 - 21)
Starter clutch	3		12 - 14 (1.2 - 1.4, 9 - 10)
Alternator rotor bolt	1	12	100 - 120 (10.0 - 12.0, 70 - 90)
Exhaust pipe flange nut	4	6	8 - 12 (0.8 - 1.2, 6 - 9)
Muffler chamber clamp bolt	4	8	18 - 25 (1.8 - 2.5, 13 - 18)
Gearshift pedal	1	6	8 - 12 (0.8 - 1.2, 6 - 9)

CHASSIS

ITEM	Q'TY	THREAD DIA., mm	TORQUE, N-m (kg-m, ft-lb)
Front air fork hose joint (left)	1	10	15 - 20 (1.5 - 2.0, 11 - 14)
(right)	1	8	4 - 7 (0.4 - 0.7, 3 - 5)
Front air fork hose connector	1	8	4 - 7 (0.4 - 0.7, 3 - 5)
Front air fork air valve	1	8	4 - 7 (0.4 - 0.7, 3 - 5)
Front air fork cap bolt	2	27	15 - 30 (1.5 - 3.0, 11 - 22)
Front axle holder	2	8	18 - 25 (1.8 - 2.5, 13 - 18)
Front axle nut	1	14	50 - 80 (5.0 - 8.0, 36 - 58)
Front fork cap bolt	2	27	70 - 90 (7.0 - 9.0, 51 - 65)
Front fork top bridge pinch bolt	2	7	9 - 13 (0.9 - 1.3, 7 - 9)
Front brake caliper bracket	2	10	30 - 40 (3.0 - 4.0, 22 - 29)
Front brake caliper mounting bolt	1	8	20 - 25 (2.0 - 2.5, 14 - 18)
Front brake caliper pivot bolt	1	10	25 - 30 (2.5 - 3.0, 18 - 22)
Front brake disc	5	8	27 - 33 (2.7 - 3.3, 20 - 24)
Front brake pad pin retainer	1	6	8 - 13 (0.8 - 1.3, 6 - 9)
Front brake torque link	2	8	18 - 25 (1.8 - 2.5, 13 - 18)
Handlebar upper holder,	4	8	18 - 25 (1.8 - 2.5, 13 - 18)
Steering stem nut	1	24	90 - 120 (9.0 - 12.0, 65 - 87)
Steering stem pinch bolt	2	8	18 - 25 (1.8 - 2.5, 13 - 18)
Final driven sprocket	4	10	60 - 70 (6.0 - 7.0, 43 - 51)
Foot peg 10 mm bolt	2	10	45 - 65 (4.5 - 6.5, 33 - 47)
Rear axle nut	1	14	80 - 100 (8.0 - 10.0, 58 - 72)
Rear brake torque link	2	8	18 - 25 (1.8 - 2.5, 13 - 18)
Rear shock absorber	4	10	30 - 40 (3.0 - 4.0, 22 - 29)



STANDARD TORQUE VALUES

TYPE	TORQUE, N·m (kg-m, ft-lb)	TYPE	TORQUE, N·m (kg-m, ft-lb)
5 mm bolt, nut	4.5 – 6.0 (0.45 – 0.6, 3.3 – 4.3)	5 mm screw	3.5 – 5 (0.35 – 0.5, 2.5 – 3.6)
6 mm bolt, nut	8 – 12 (0.8 – 1.2, 6 – 9)	6 mm screw	7 – 11 (0.7 – 1.1, 5 – 8)
8 mm bolt, nut	18 – 25 (1.8 – 2.5, 13 – 18)	6 mm flange bolt, nut	10 – 14 (1.0 – 1.4, 7 – 10)
10 mm bolt, nut	30 – 40 (3.0 – 2.0, 22 – 29)	8 mm flange bolt, nut	24 – 30 (2.4 – 3.0, 17 – 22)
12 mm bolt, nut	50 – 60 (5.0 – 6.0, 36 – 43)	10 mm flange bolt, nut	30 – 40 (3.0 – 4.0, 22 – 29)



GENERAL INFORMATION

TOOLS

SPECIAL

TOOL NO.	TOOL DESCRIPTION
07984-2000000	Valve guide reamer (IN)
07984-6570100	Valve guide reamer (EX)
07958-4130000	Piston base
07955-4630000	Piston ring compressor
07703-0010200	Torx driver bit
07917-3230000	Hex wrench, 6 mm
07945-3330300	Race driver attachment
07953-3330000	Ball race remover
07914-3230001	Snap ring pliers

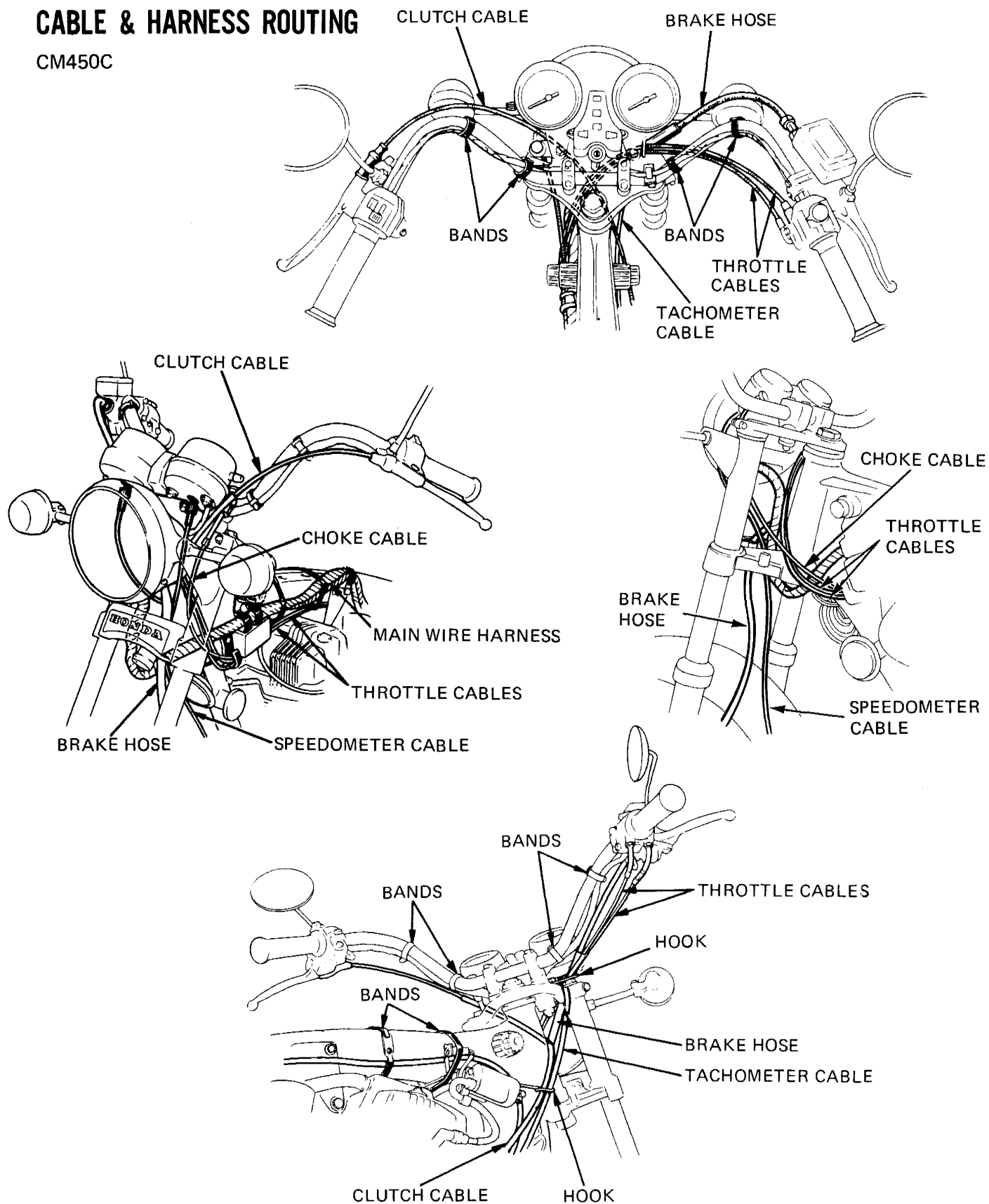
COMMON

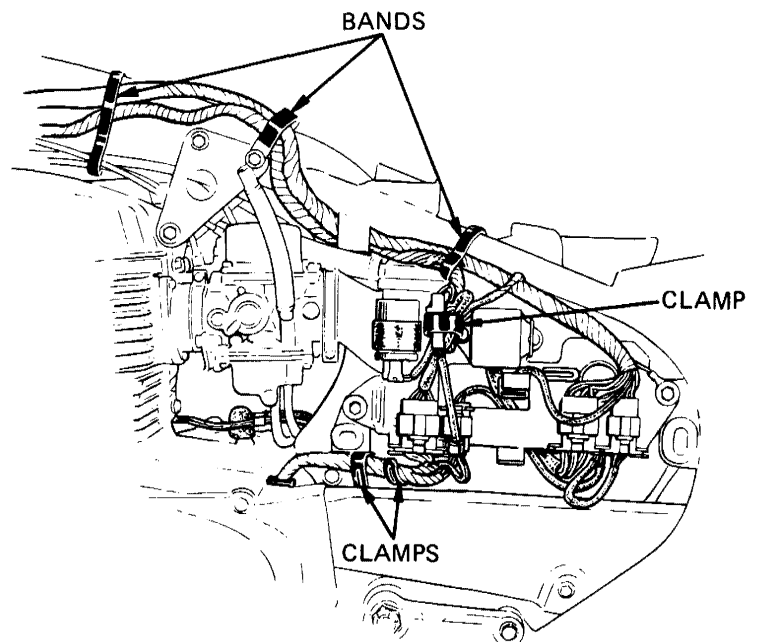
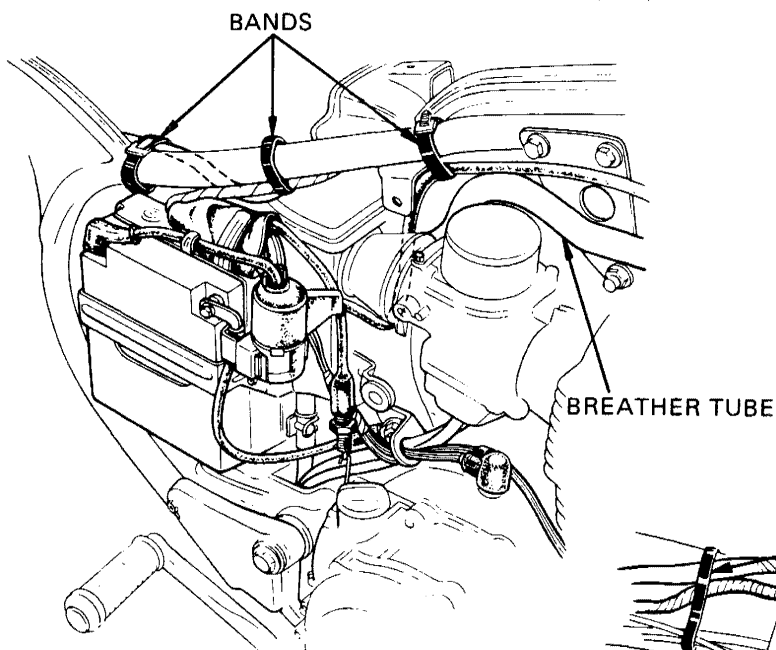
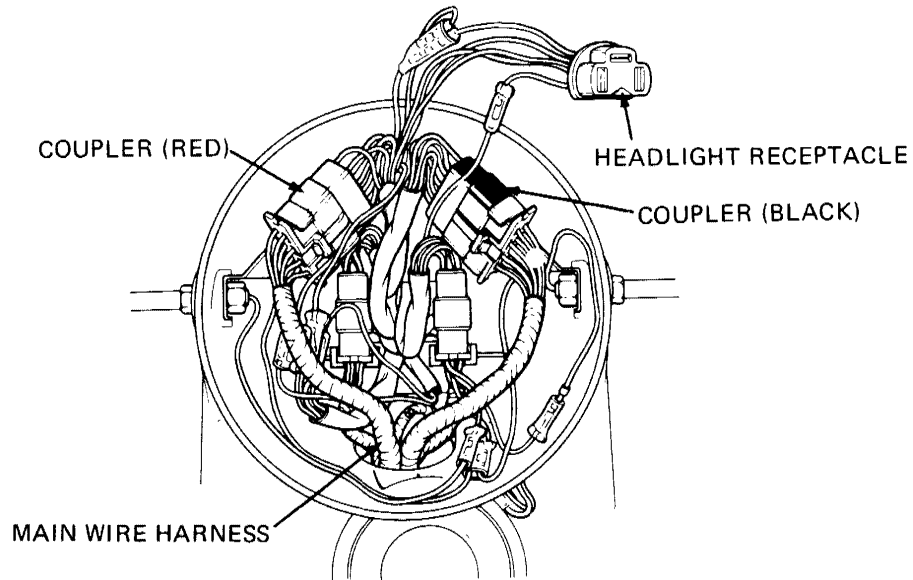
TOOL NO.	TOOL DESCRIPTION	APPLICATION (Common tool ↔ Special tool)
07401-0010000	Float level gauge	
07742-0010100	Valve guide remover, 5.5 mm	07942-3290100
07742-0010200	Valve guide remover, 6.6 mm	07942-3000000/07942-5420200/07942-6110000
07757-0010000	Valve spring compressor	07957-3290001
07716-0020203	Lock nut wrench, 26 x 30 mm	
07725-0030000	Universal holder	07725-0010101
07702-0010000	Pin spanner	
07716-0020400	Lock nut wrench, 30 x 32 mm	
07716-0020500	Extension bar	
07749-0010000	Bearing driver handle A	07949-6110000/07949-2860000
07746-0010300	Bearing driver outer, 42 x 47 mm	07946-3640000/07946-4300200/07946-3330100
07746-0040300	Bearing driver pilot, 15 mm	
07747-0010100	Front fork oil seal driver body] 07947-3330000
07747-0010500	Front fork oil seal attachment D	
07746-0010400	Bearing driver outer, 52 x 55 mm	07946-3290000/07946-9370100
07746-0040400	Bearing driver pilot, 17 mm	
07746-0040500	Bearing driver pilot, 20 mm	
07959-3290001	Rear shock absorber compressor	
07733-0020001	Rotor puller	07933-3950000
07946-3710601	Steering stem driver	
07708-0030200	Wrench, 10 x 12 mm] 07908-3230000
07708-0030300	Adjusting driver A	
07742-0020200	Valve guide driver B	07942-3290200
07746-0030100	Bearing driver handle C	
07746-0030200	Bearing driver inner, 25 mm	
07746-0030300	Bearing driver inner, 30 mm	

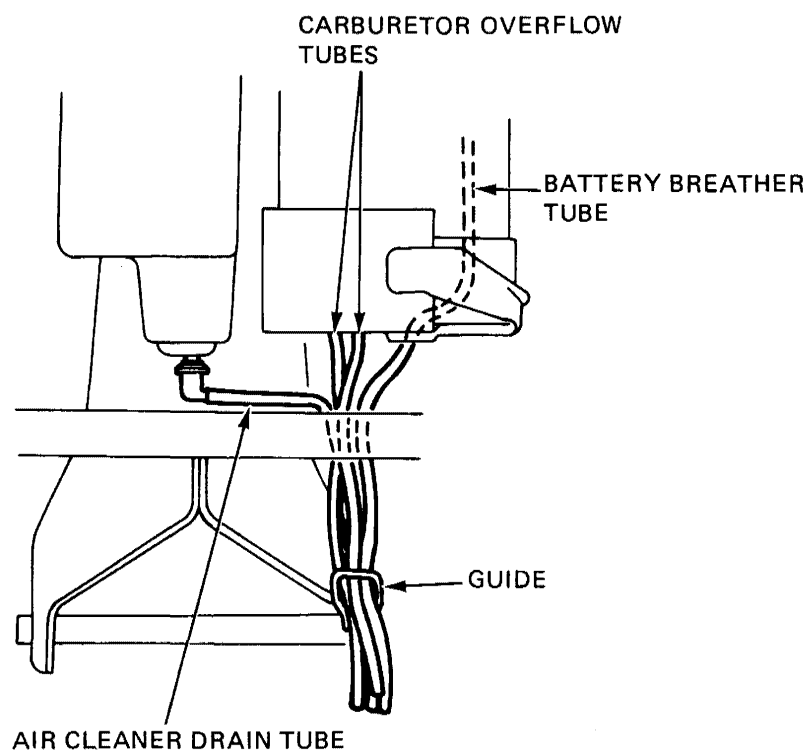
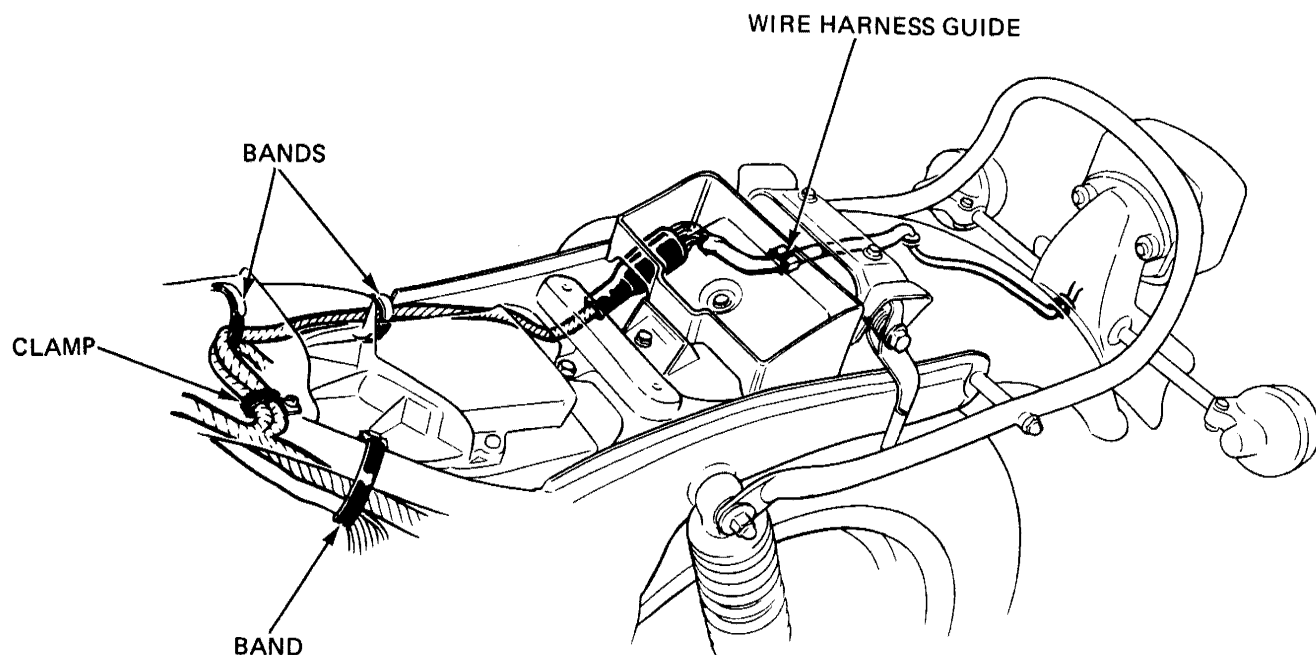


CABLE & HARNESS ROUTING

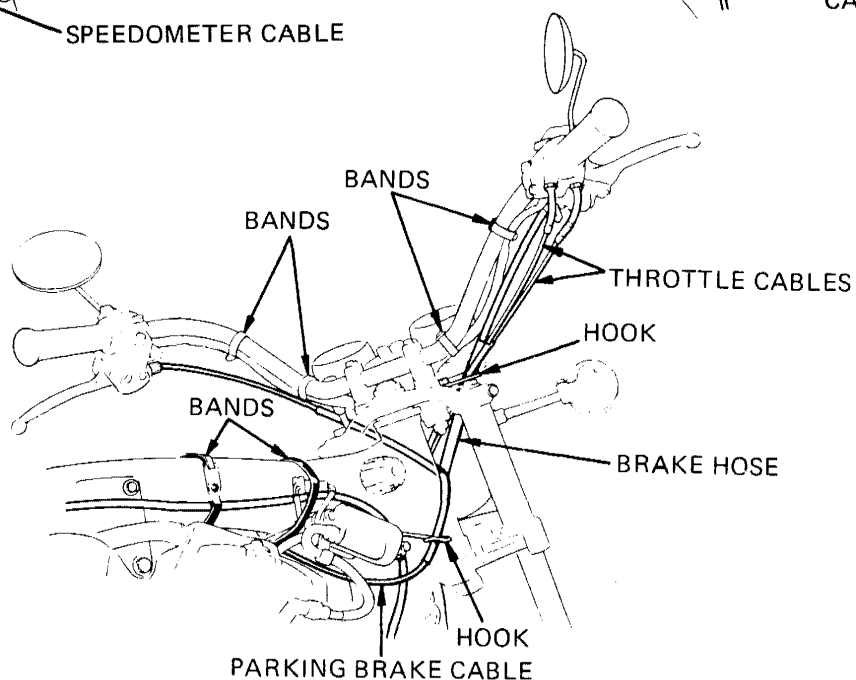
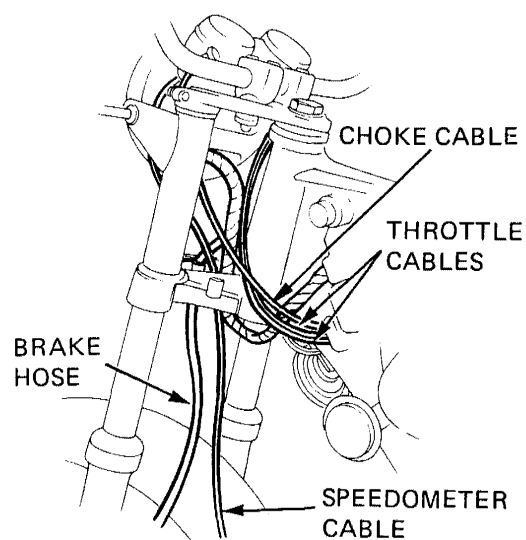
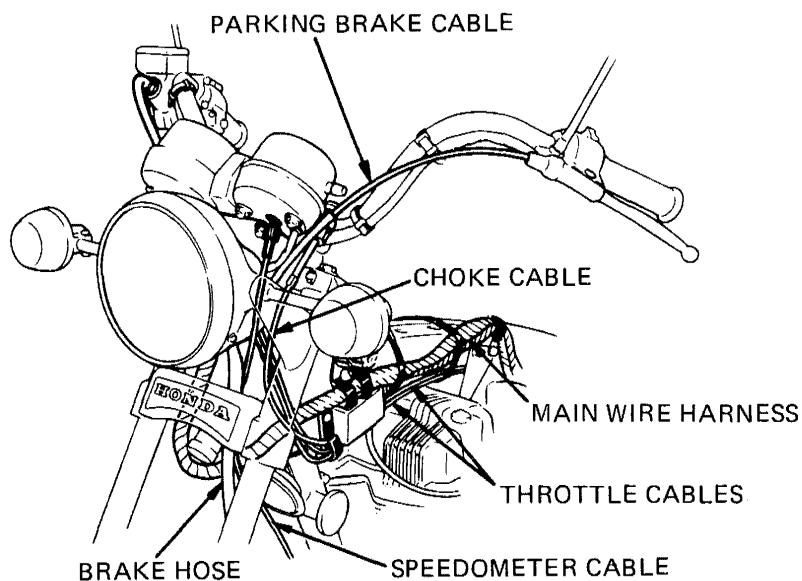
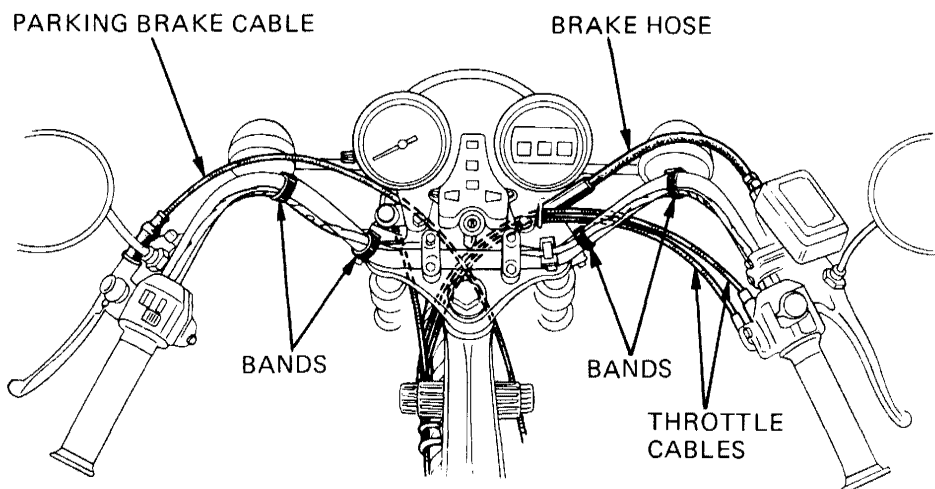
CM450C

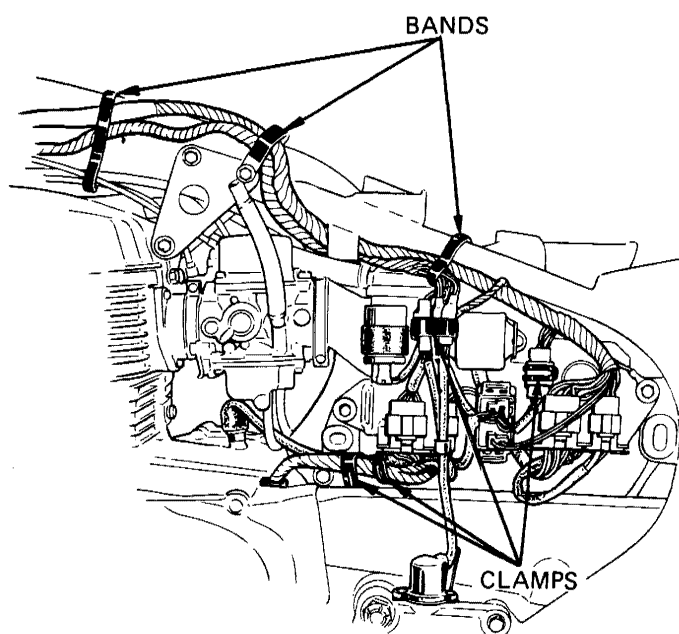
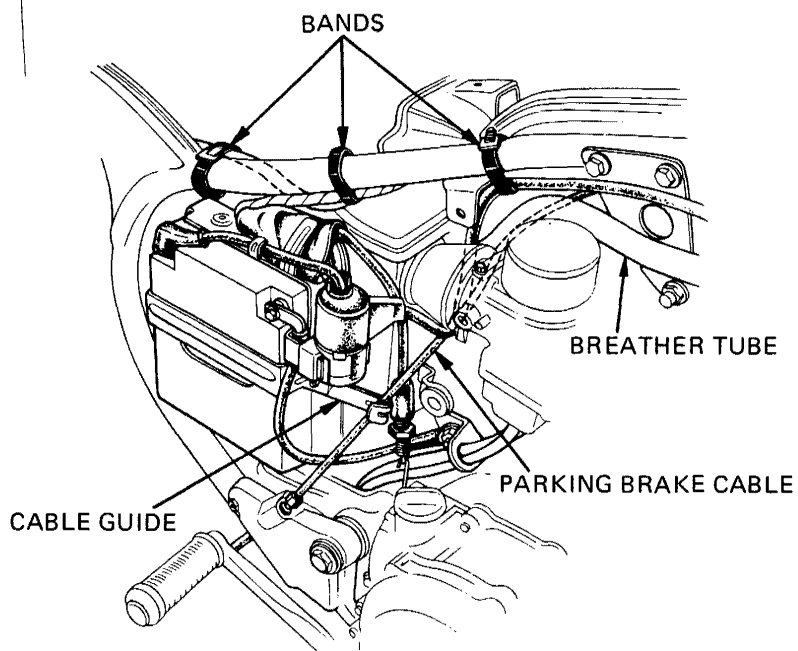
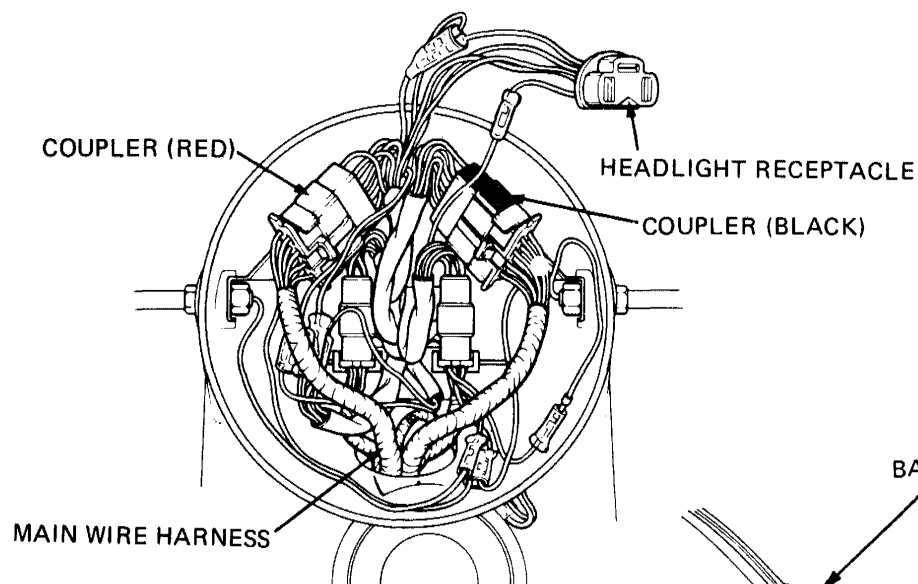


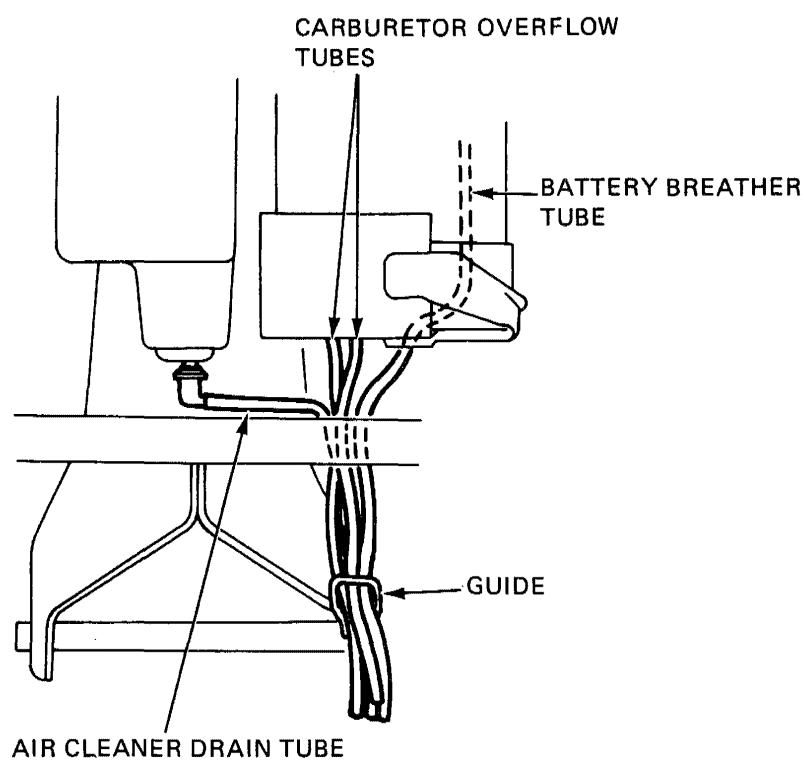
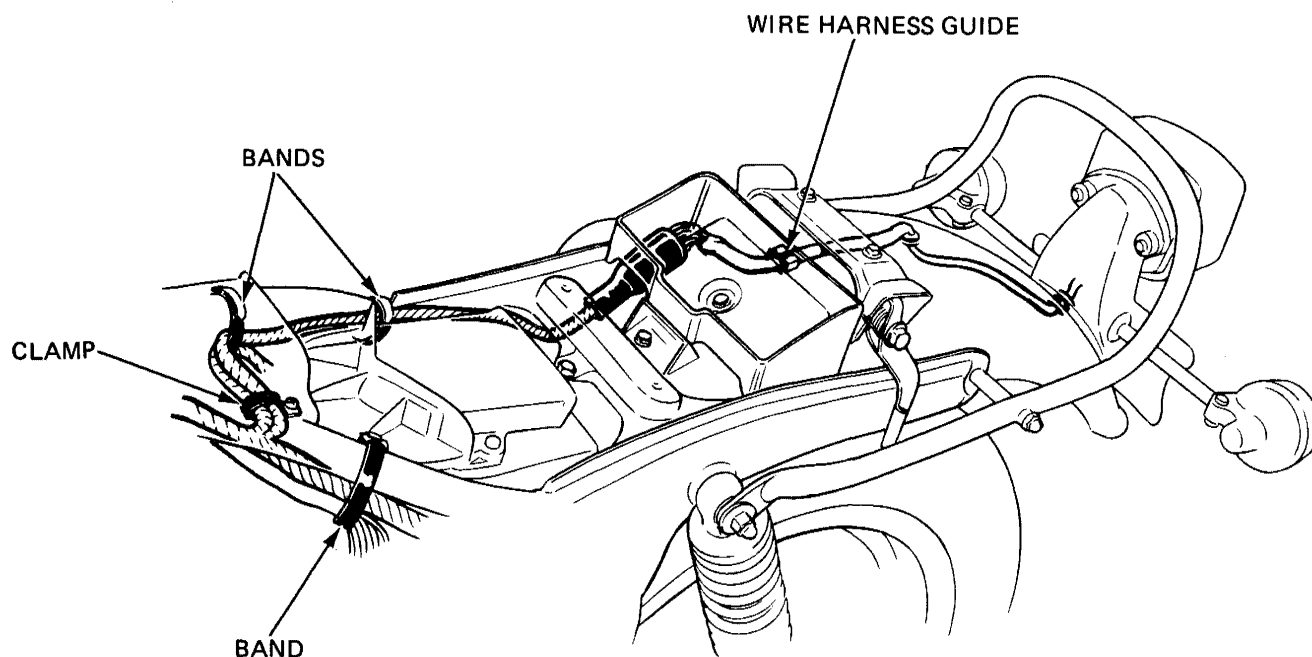




CM450A

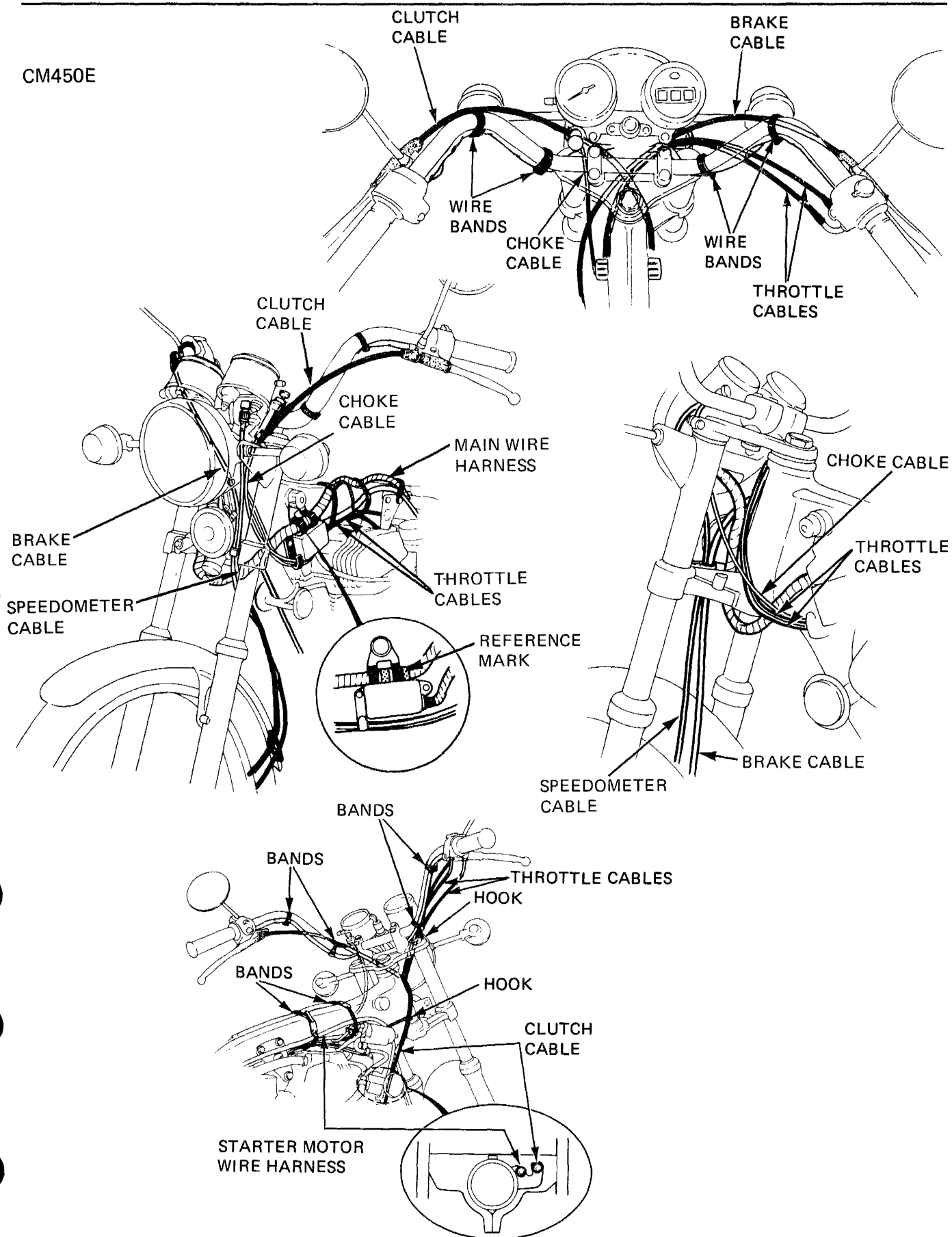


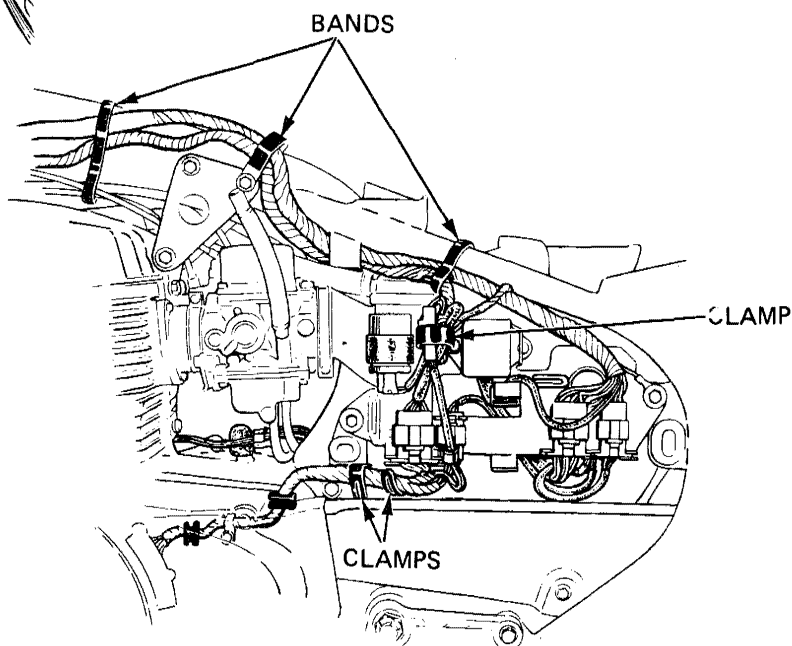
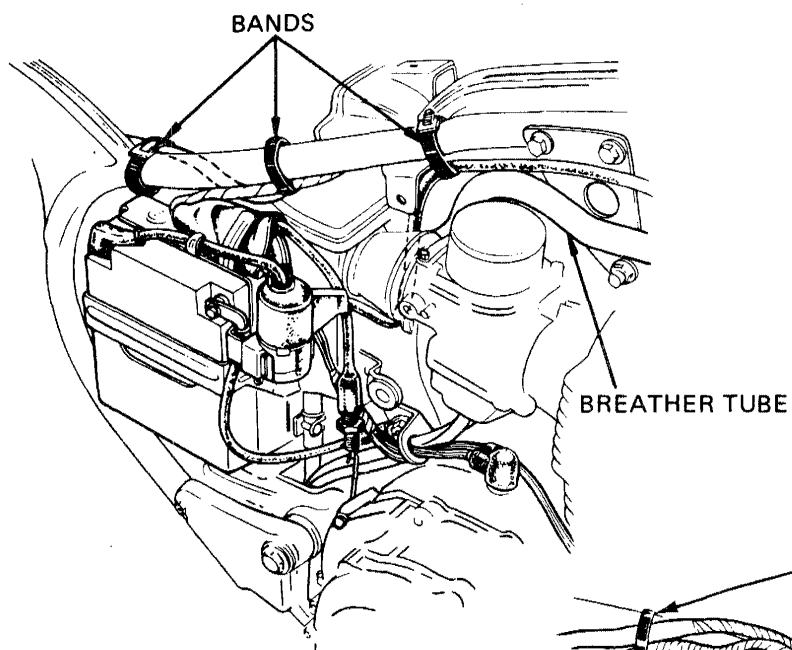
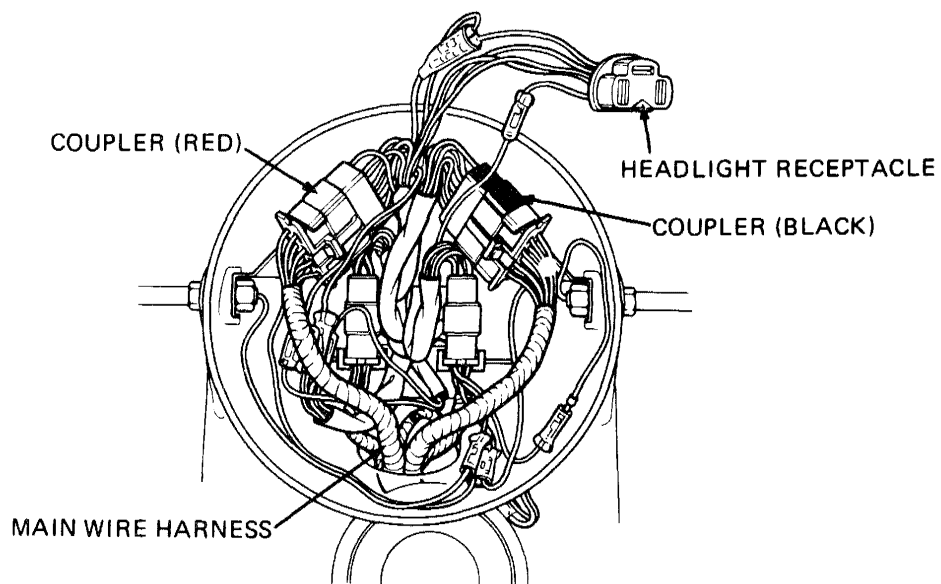


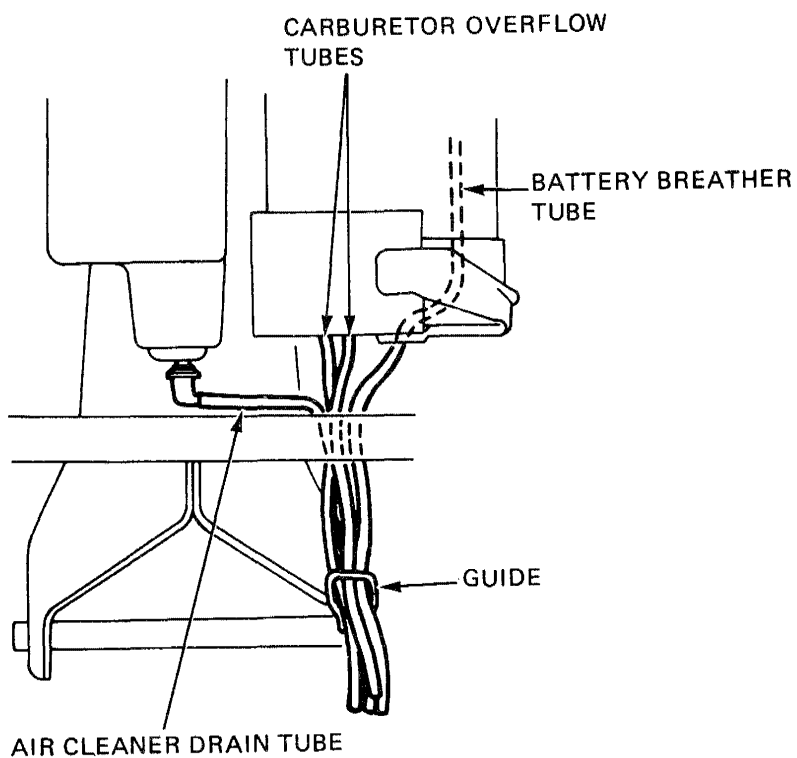
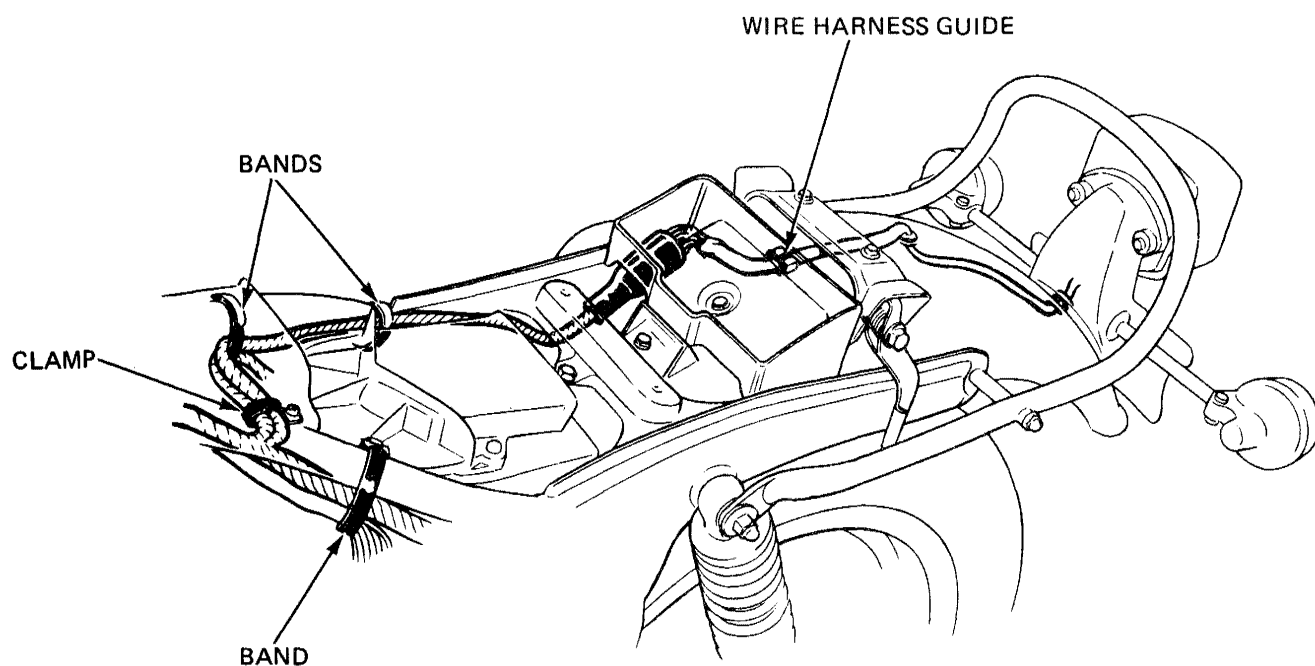




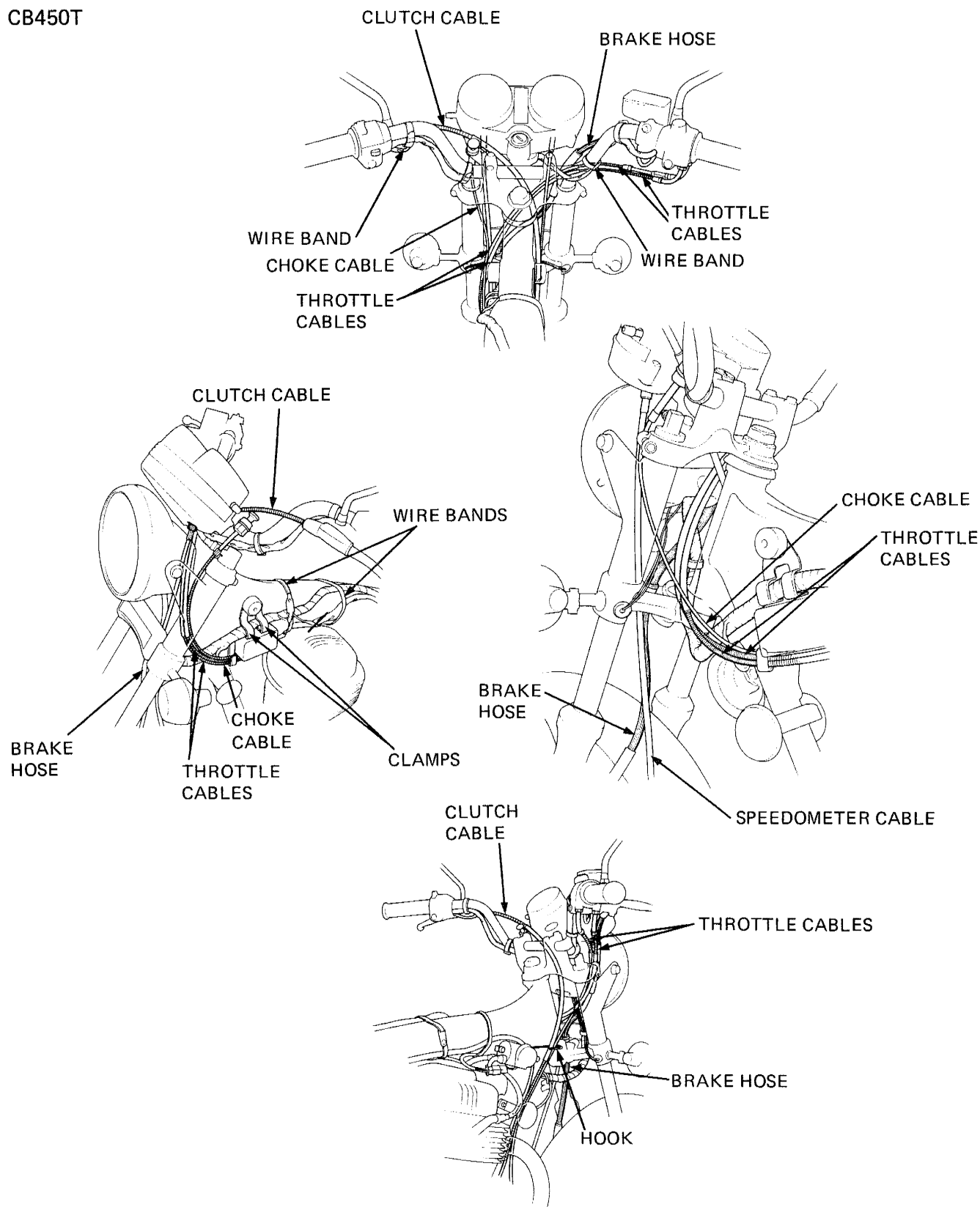
CM450E

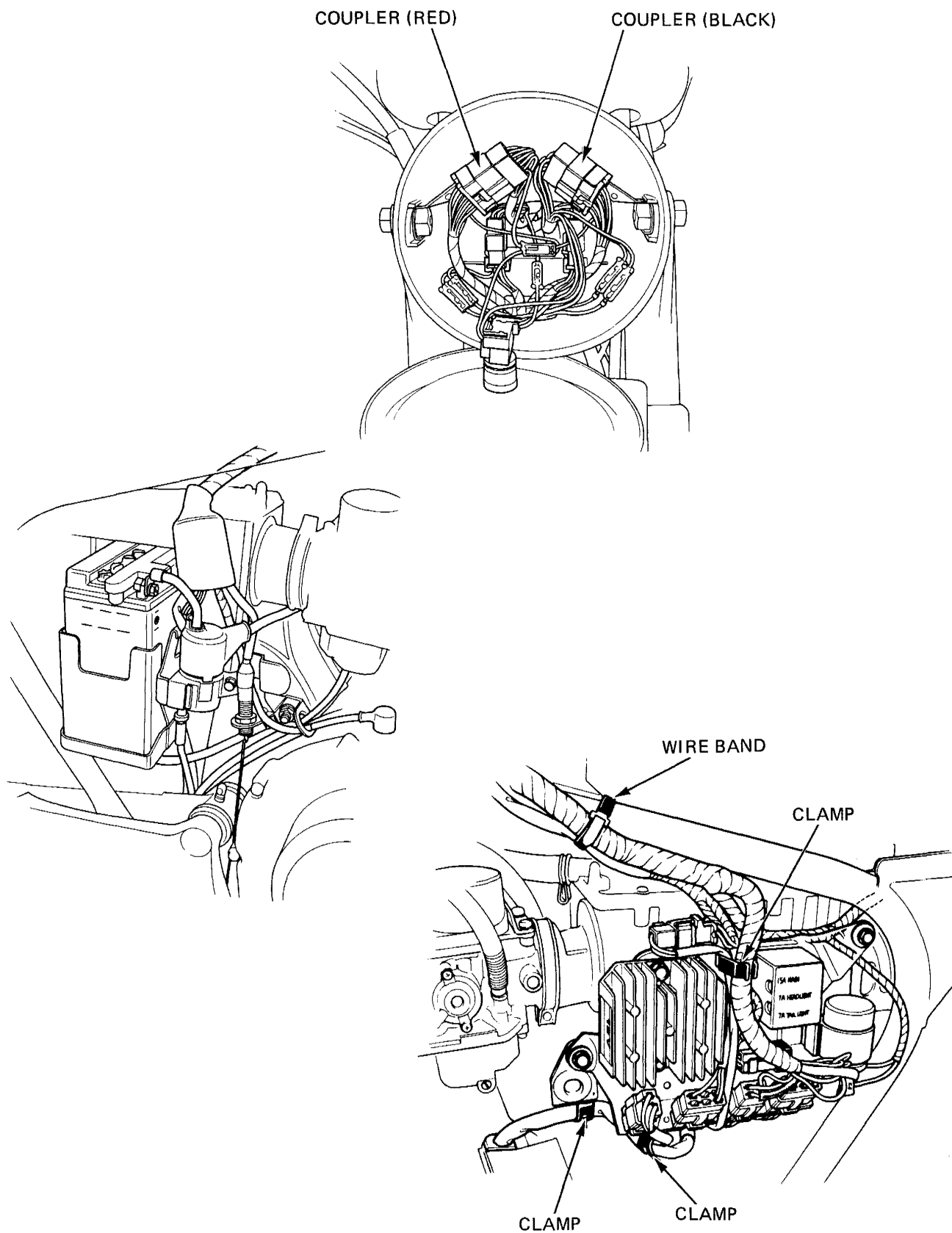


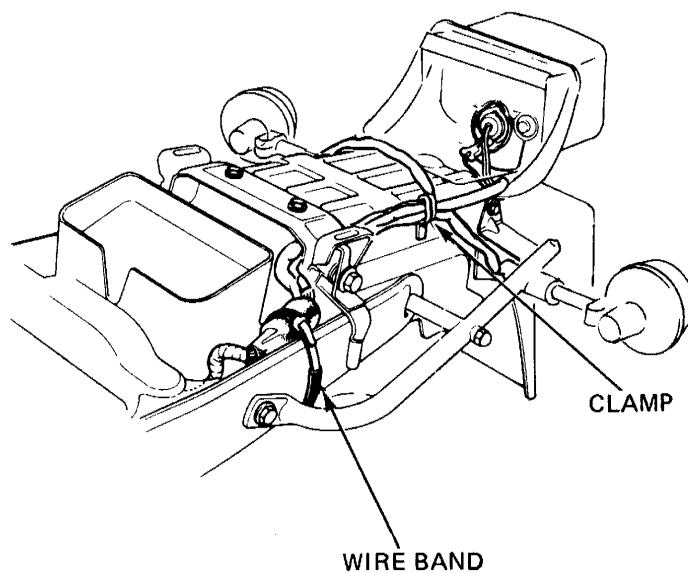




CB450T









EMISSION CONTROL SYSTEM

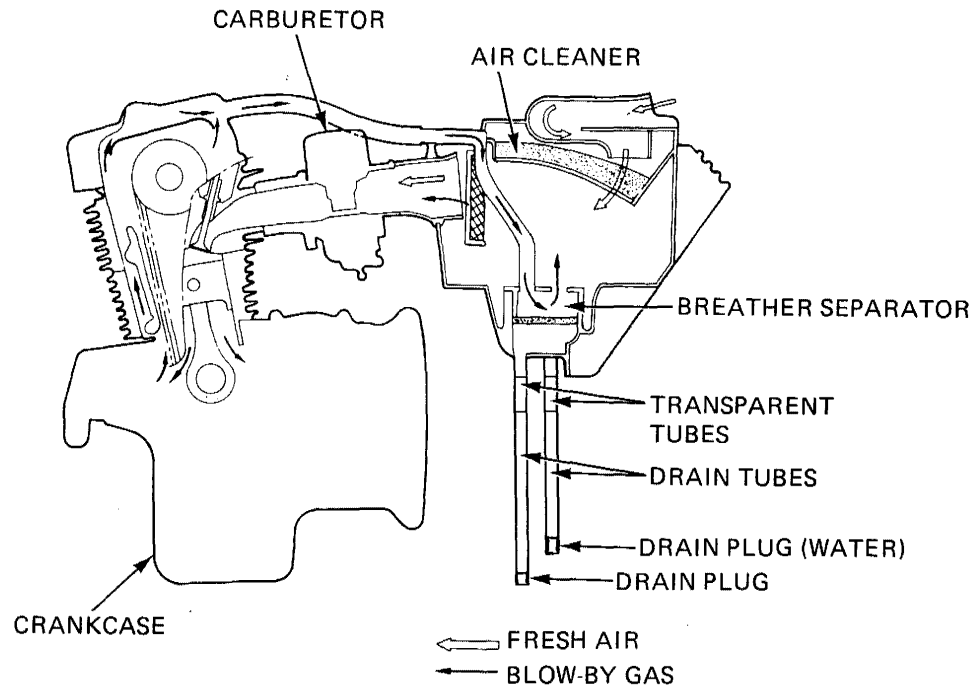
The CM450C, E, A and CB450T are equipped with two separate emission control systems.

EXHAUST EMISSION CONTROL SYSTEM

The exhaust emission control system is composed of a factory pre-set carburetor. No adjustment should be made except to the idle speed with the throttle stop screw.

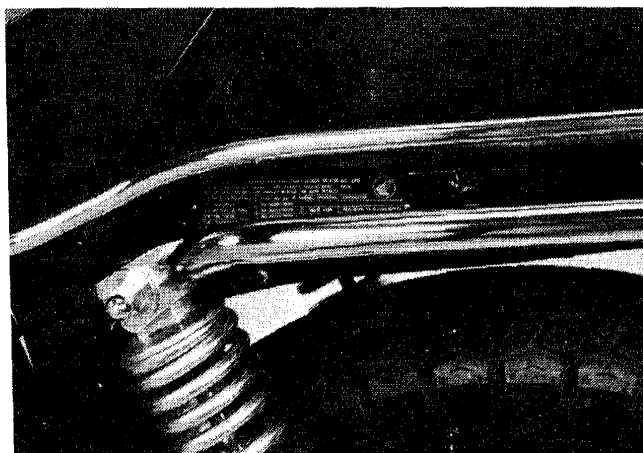
CRANKCASE EMISSION CONTROL SYSTEM

The engine is equipped with a "Closed System" to prevent crankcase emission from entering the atmosphere. Blow-by gas is returned to the combustion chamber through the air cleaner and carburetor. Liquids are collected in the drain tubes.



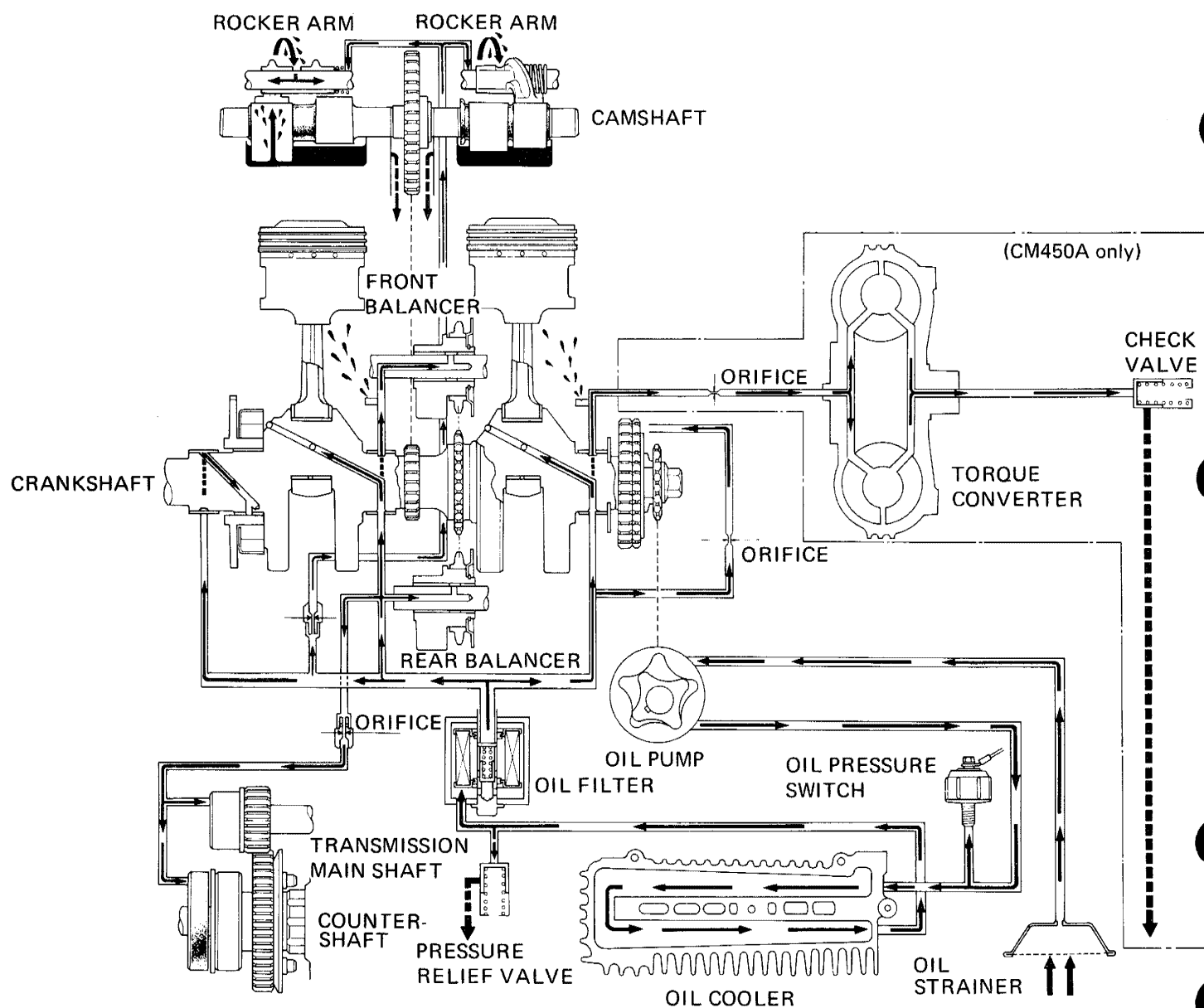
EMISSION CONTROL INFORMATION LABEL

An emission control information label is located on the frame as show. It contains basic tune-up specifications.



Vehicle Emission Control Information Label

LUBRICATION DIAGRAM



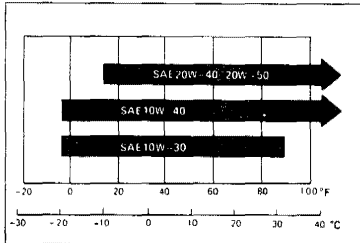
SERVICE INFORMATION	2-1	ENGINE OIL & FILTER CHANGE	2-3
TROUBLESHOOTING	2-2	OIL PRESSURE CHECK	2-4
ENGINE OIL LEVEL	2-3	LUBRICATION POINTS	2-5

SERVICE INFORMATION

GENERAL

- Oil pump and pressure relief valve service procedures are described in Section 10.
- Oil strainer service is described in Section 13.
- Torque converter service for CM450A is described in Section 9.

SPECIFICATIONS

Oil capacity CM450C, E, and CB450T CM450A	3.0 liters (3.2 US qt, 2.7 Imp qt) at disassembly 2.5 liters (2.6 US qt, 2.7 Imp qt) at change 3.3 liters (3.5 US qt, 2.9 Imp qt) at disassembly 2.5 liters (2.6 US qt, 2.2 Imp qt) at change
Oil recommendation	<p>Use HONDA 4-STROKE OIL or equivalent. API SERVICE CLASSIFICATION: SE or SF VISCOSITY: SAE 10W-40</p> <p>Other viscosities shown in the chart may be used when the average temperature in your riding area is within the indicated range.</p> <div data-bbox="1112 987 1328 1014" data-label="Caption"> OIL VISCOSITIES </div> 
Oil pump capacity CM450C, E and CB450T CM450A	11.0 liters (11.6 US qt, 9.7 Imp qt)/min. at 4,000 rpm 17.5 liters (18.5 US qt, 15.4 Imp qt)/min. at 3,000 rpm

TORQUE VALUES

Engine oil drain bolt	25-35 N·m (2.5-3.5 kg-m, 18-25 ft-lb)
Engine oil filter bolt	28-32 N·m (2.8-3.2 kg-m, 20-23 ft-lb)



TROUBLESHOOTING

Oil level too low

1. External oil leaks
2. Worn piston rings
3. Worn valve guide or seal

Oil contamination

1. Oil or filter not changed often enough
2. Head gasket faulty
3. Worn piston rings

High oil pressure

1. Pressure relief valve stuck closed
2. Plugged oil filter, gallery, or metering orifice
3. Incorrect oil being used
4. CM450A: Torque converter check valve stuck closed

Non oil pressure

1. Oil level low
2. Oil pump drive gear broken
3. Oil pump faulty
4. Internal oil leakage

Low oil pressure

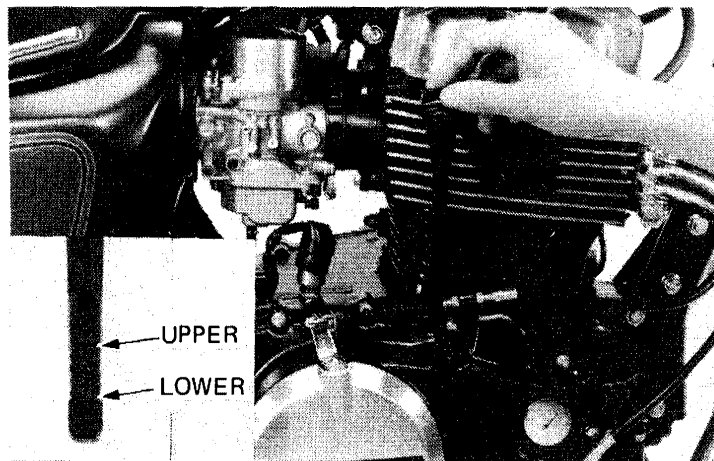
1. Oil level low
2. Pressure relief valve stuck open
3. Plugged oil pick-up screen
4. Oil pump worn
5. External oil leaks
6. CM450A: Worn torque converter sealing ring
7. CM450A: Weak or damaged torque converter check valve spring



ENGINE OIL LEVEL

CM450C, E and CB450T:

Support the motorcycle on its center stand or hold it upright. Check the oil level with the filler cap dipstick. Do not screw in the cap when making this check. If the level is below the lower level mark, fill to the upper level mark.



CM450A:

Run the engine for a few minutes to allow oil to flow into the torque converter.

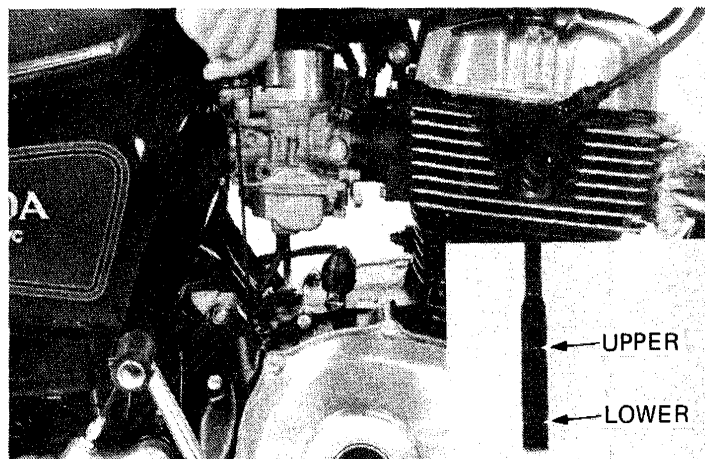
NOTE

Apply the parking brake when warming up the engine.

Stop the engine and support the motorcycle on its center stand.

Check the oil level with the filler cap dipstick after 2-3 minutes.

Do not screw in the cap when making this check. If the level is below the lower level mark, fill to the upper level mark.

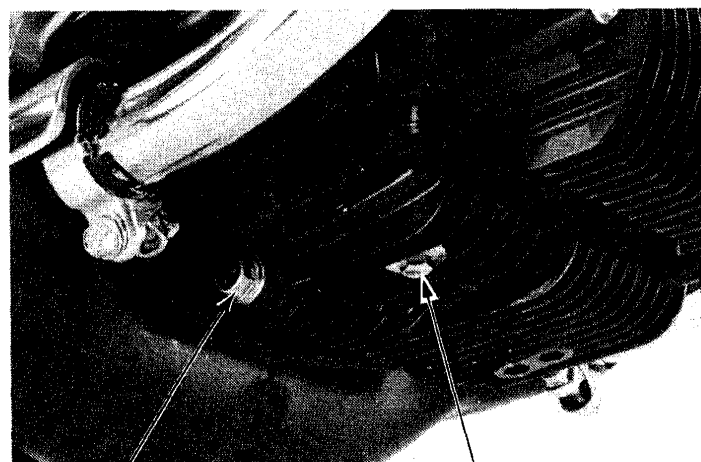


ENGINE OIL & FILTER CHANGE

NOTE

Engine oil change is performed with engine at normal operating temperature and vehicle upright or on center stand to assure complete and rapid draining.

Remove the oil filler cap after the engine is warm. Remove the drain plug and oil filter cover to drain oil from the engine. Remove the oil filter element from the cover.



OIL DRAIN BOLT

OIL FILTER BOLT



LUBRICATION

Check operation of the bypass valve in the oil filter bolt.

Make sure that the sealing washer on the drain plug and the O-rings on the oil filter bolt and the oil filter cover are in good condition.

Install the drain plug.

Install a new oil filter element, oil filter bolt and cover.

Tighten the oil filter bolt to the torque specified.

TORQUE: 23–32 N·m (2.8–3.2kg·m, 20–30 ft-lb)

Reinstall the drain bolt and tighten to the torque specified.

TORQUE: 25–35 N·m (2.5–3.5 kg·m, 18–25 ft-lb)

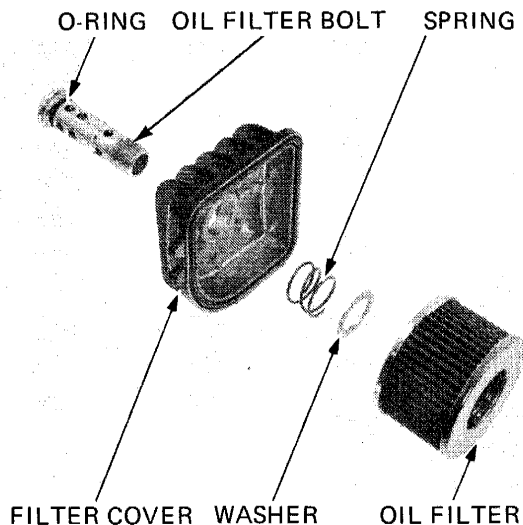
Fill the crankcase with the recommended oil.

CAPACITY: 2.5 liters (2.6 US qt, 2.2 Imp qt) after draining

Reinstall the oil filler cap.

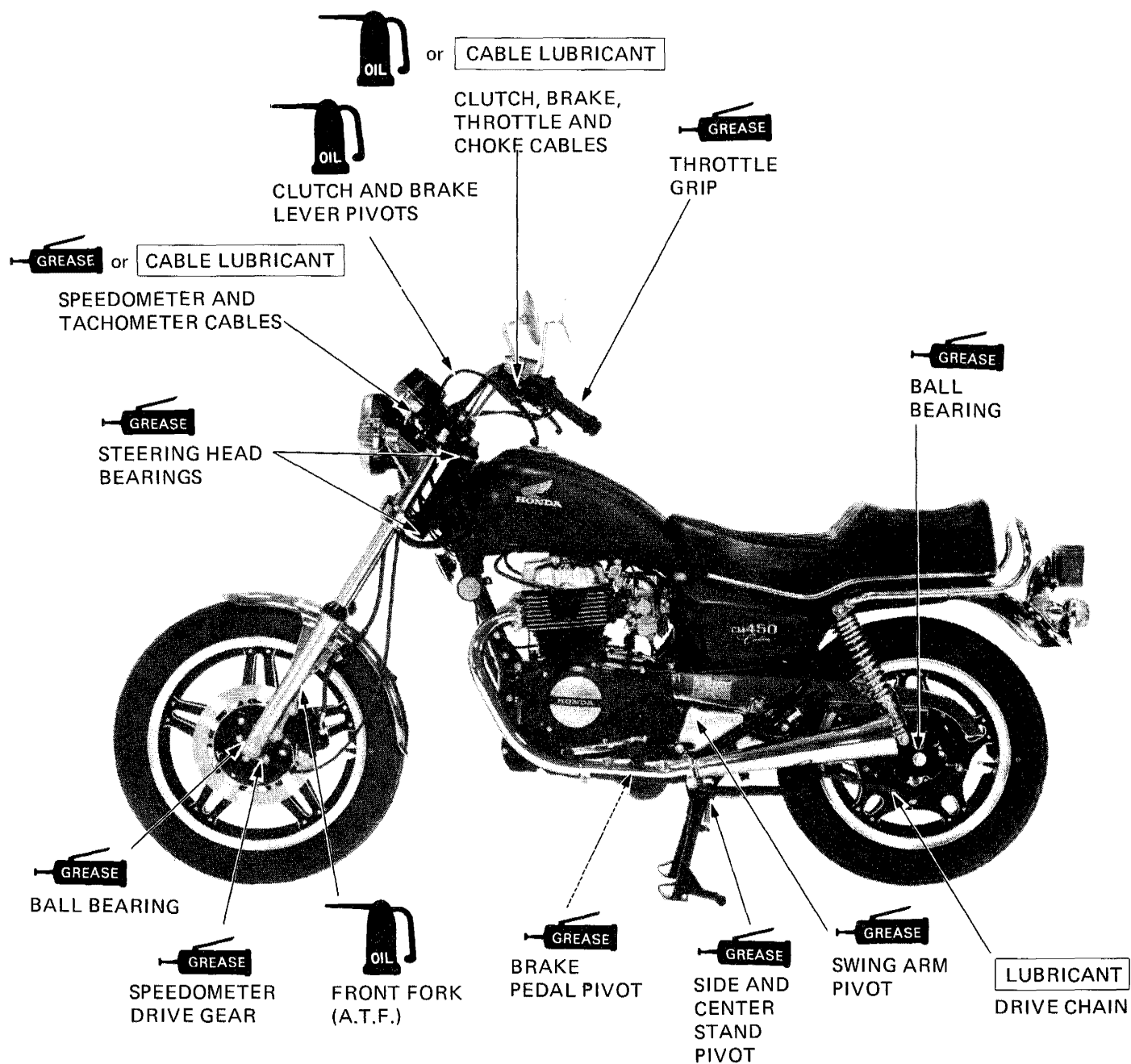
Start the engine and allow it to idle for a few minutes.

Stop the engine, check that the oil level is at the upper level mark of the dipstick with the motor-cycle upright, and that there are no oil leaks.





LUBRICATION POINTS





M E M O



SERVICE INFORMATION	3-1	CHASSIS	
MAINTENANCE SCHEDULES	3-2	DRIVE CHAIN	3-17
ENGINE		BATTERY	3-19
FUEL LINES	3-7	BRAKE FLUID	3-19
FUEL STRAINER	3-7	BRAKE SHOE/PAD WEAR	3-19
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CARBURETOR CHOKE	3-8	BRAKELIGHT SWITCH	3-23
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CRANKCASE BREATHER	3-11	CLUTCH	3-24
SPARK PLUGS	3-11	SIDE STAND	3-25
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CARBURETOR IDLE SPEED	3-16		
IGNITION TIMING	3-16		
CYLINDER COMPRESSION	3-17		

SERVICE INFORMATION

GENERAL

- Some maintenance procedures require the engine to be cold (room temperature below 35°C, 95°F) and other require a warm engine. Perform the procedures for scheduled maintenance items in the order they are listed in the maintenance schedule. This will ensure that those procedures requiring a cold engine will be done first.
- For engine oil and filter service, see page 2-2.

SPECIFICATIONS

ENGINE

Spark plug

	NGK	ND
Standard	DR8ES-L	X24ESR-U
For cold climate (below 5°C, 41°F)	DR7ES	X22ESR-U
For extended high speed riding	DR8ES	X27ESR-U

Spark plug gap: 0.6–0.7 mm (0.024–0.028 in)

Ignition timing:

CM450C, E and CB450T

Initial: 15° BTDC at 1,200 rpm

Full advance: 43° BTDC at 4,500–5,350 rpm

CM450A

Initial "FN": 7.5° BTDC at 1,250 rpm

"F" : 15° BTDC at 1,250 rpm

Full advance: 43° BTDC at 4,500–5,350 rpm

INSPECTION AND ADJUSTMENT

Valve clearance: IN: 0.10 mm (0.004 in)
(cold) EX: 0.14 mm (0.006 in)

Idle speed:

CM450C, E and CB450T: 1,200 ± 100 rpm
CM450A: 1,250 ± 100 rpm

Carburetor synchronization: Allowable vacuum difference between cylinders 40mm Hg (1.6 in Hg) or less

Cylinder compression: 1,270 ± 98 kPa (13 ± 1 kg/cm², 185 ± 14 psi)

Throttle grip free play: 2–6 mm (1/8–1/4 in)

CHASSIS

Drive chain slack: 15–25 mm (5/8–1 in)

CM450E:

Front brake lever free play: 20–30 mm (3/4–1–1/4 in)

Rear brake pedal free play: 20–30 mm (3/4–1–1/4 in)

CM450A:

Parking brake lever free play: 0–5 mm (0–1/4 in)

CM450C, E and CB450T:

Clutch lever free play: 10–20 mm (3/8–3/4 in)

Side stand spring tension: 2–3 kg (4.4–4.6 lbs)

CM450C, A and CB450T:

Front fork air pressure 80 ± 20 kPa (0.8 ± 0.2 kg/cm², 11 ± 3 psi)

Tires:

		CM450C, A		CB450T		CM450E	
		Front	Rear	Front	Rear	Front	Rear
Tire size		3.50S18-4PR	4.60S16-4PR	3.60S19-4PR	4.10S18-4PR	3.50S18-4PR	4.60S16-4PR
Cold tire pressures psi (kPa, kg/cm ²)	Up to 90 kg (200 lbs) load	28 (200, 2.0)	28 (200, 2.0)	28 (200, 2.0)	28 (200, 2.0)	24 (175, 1.75)	28 (200, 2.0)
	90 kg (200 lbs) load to vehicle capacity load	28 (200, 2.0)	36 (250, 2.5)	28 (200, 2.0)	36 (250, 2.5)	24 (175, 1.75)	36 (250, 2.5)
Tire brand		TUBELESS ONLY		TUBELESS ONLY		TUBE TYPE	
BRIDGESTONE		S703	L302	S702	L302	S703	L302
DUNLOP		F11	K127	F11	K127	F11	K127
YOKOHAMA		Y-992	Y-987	Y-992	Y-983	Y-992	Y-987

TOOLS

SPECIAL

Carburetor synchronization wrench H/C 093417 M2980–350–93417
Carburetor vacuum gauge kit H/C 047978 M9378–021–XXXX

TORQUE VALUES

Fuel strainer 3–5 N·m (0.3–0.5 kg-m, 2–4 ft-lb)
Balancer stopper plate 8 mm 20–25 N·m (2.0–2.5 kg-m, 14–18 ft-lb)
10 mm 30–35 N·m (3.0–3.5 kg-m, 22–25 ft-lb)
Rear axle nut 70–100 N·m (7.0–10.0 kg-m, 51–72 ft-lb)
Spokes (CM450E) 2.5–3.5 N·m (0.25–0.35 kg-m, 1.4–2.5 ft-lb)



MAINTENANCE SCHEDULES

CM450C

Perform the Pre-Ride Inspection in the Owner's Manual at each scheduled maintenance period.

I : INSPECT AND CLEAN, ADJUST, LUBRICATE, OR REPLACE IF NECESSARY.

C : CLEAN

R : REPLACE

A : ADJUST

L : LUBRICATE

ITEM	FREQUENCY	WHICHEVER COMES FIRST ↓ EVERY	ODOMETER READING (NOTE 3)						Refer to page
			600mi (1,000km)	4,000mi (6,400km)	8,000mi (12,800km)	12,000mi (19,200km)	16,000mi (25,600km)	20,000mi (32,000km)	
EMISSION RELATED ITEMS	*	FUEL LINES		I	I	I	I	I	3 - 7
	*	FUEL STRAINER	C	C	C	C	C	C	3 - 7
	*	THROTTLE OPERATION	I	I	I	I	I	I	3 - 8
	*	CARBURETOR-CHOKE		I	I	I	I	I	3 - 8
		AIR CLEANER	NOTE 1	C	R	C	R	C	3 - 9
		CRANKCASE BREATHER	NOTE 2	C	C	C	C	C	3 - 11
		SPARK PLUGS		R	R	R	R	R	3 - 11
	*	VALVE CLEARANCE		I	I	I	I	I	3 - 12
		ENGINE OIL	YEAR	R	REPLACE EVERY 2,000 mi (3,200 km)				2 - 3
		ENGINE OIL FILTER	YEAR	R	R	R	R	R	2 - 3
	**	BALANCER CHAIN TENSION				A			3 - 12
	*	CAM CHAIN TENSION		A	A	A	A	A	3 - 14
NON-EMISSION RELATED ITEMS	*	CARBURETOR-SYNCHRONIZATION		I	I	I	I	I	3 - 15
	*	CARBURETOR-IDLE SPEED		I	I	I	I	I	3 - 16
		DRIVE CHAIN		I, L EVERY 300 mi (500 km)					3 - 17
		BATTERY	MONTH	I	I	I	I	I	3 - 19
		BRAKE FLUID (FRONT)	MONTH 2 YEARS *R	I	I	I	*R	I	3 - 19
		BRAKE SHOE/PAD WEAR		I	I	I	I	I	3 - 19
		BRAKE SYSTEM		I	I	I	I	I	3 - 20
	*	BRAKE LIGHT SWITCH		I	I	I	I	I	3 - 23
	*	HEADLIGHT AIM		I	I	I	I	I	3 - 23
		CLUTCH		I	I	I	I	I	3 - 24
		SIDE STAND		I	I	I	I	I	3 - 25
	*	SUSPENSION		I	I	I	I	I	3 - 26
	*	NUTS, BOLTS, FASTENERS		I	I	I	I	I	3 - 27
	**	WHEELS		I	I	I	I	I	3 - 27
	**	STEERING HEAD BEARING		I		I		I	3 - 28

* SHOULD BE SERVICED BY AN AUTHORIZED HONDA DEALER, UNLESS THE OWNER HAS PROPER TOOLS AND SERVICE DATA AND IS MECHANICALLY QUALIFIED.

** IN THE INTEREST OF SAFETY, WE RECOMMEND THESE ITEMS BE SERVICED ONLY BY AN AUTHORIZED HONDA DEALER.

NOTES: 1. Service more frequently when riding in dusty areas.
2. Service more frequently when riding in rain or at full throttle.
3. For higher odometer readings, repeat at the frequency interval established here.



CM450A

Perform the Pre-Ride Inspection in the Owner's Manual at each scheduled maintenance period.

I : INSPECT AND CLEAN, ADJUST, LUBRICATE, OR REPLACE IF NECESSARY.

C : CLEAN

R : REPLACE

A : ADJUST

L : LUBRICATE

ITEM	FREQUENCY	WHICHEVER → COMES FIRST ↓ EVERY	ODOMETER READING (NOTE 3)						Refer to page
			600mi (1,000km)	4,000mi (6,400km)	8,000mi (12,800km)	12,000mi (19,200km)	16,000mi (25,600km)	20,000mi (32,000km)	
EMISSION RELATED ITEMS	* FUEL LINES		I	I	I	I	I	I	3-7
	* FUEL STRAINER		C	C	C	C	C	C	3-7
	* THROTTLE OPERATION		I	I	I	I	I	I	3-8
	* CARBURETOR-CHOKE		I	I	I	I	I	I	3-8
	AIR CLEANER	NOTE 1		C	R	C	R	C	3-9
	CRANKCASE BREATHER	NOTE 2		C	C	C	C	C	3-11
	SPARK PLUGS			R	R	R	R	R	3-11
	* VALVE CLEARANCE		I	I	I	I	I	I	3-12
	ENGINE OIL	YEAR	R	REPLACE EVERY 2,000 mi (3,200 km)					2-3
	ENGINE OIL FILTER	YEAR	R	R	R	R	R	R	2-3
	** BALANCER CHAIN TENSION					A			3-12
	* CAM CHAIN TENSION		A	A	A	A	A	A	3-14
NON-EMISSION RELATED ITEMS	* CARBURETOR-SYNCHRONIZATION		I	I	I	I	I	I	3-15
	* CARBURETOR-IDLE SPEED		I	I	I	I	I	I	3-16
	DRIVE CHAIN		I, L EVERY 300 mi (500 km)						3-17
	BATTERY	MONTH	I	I	I	I	I	I	3-19
	BRAKE FLUID (FRONT)	MONTH 2 YEARS *R	I	I	I	*R	I	I	3-19
	BRAKE SHOE/PAD WEAR			I	I	I	I	I	3-19
	BRAKE SYSTEM		I	I	I	I	I	I	3-20
	* BRAKE LIGHT SWITCH		I	I	I	I	I	I	3-23
	* HEADLIGHT AIM		I	I	I	I	I	I	3-23
	SIDE STAND			I	I	I	I	I	3-25
	* SUSPENSION		I	I	I	I	I	I	3-26
	* NUTS, BOLTS, FASTENERS		I	I	I	I	I	I	3-27
	** WHEELS		I	I	I	I	I	I	3-27
	** STEERING HEAD BEARING		I		I		I		3-28

* SHOULD BE SERVICED BY AN AUTHORIZED HONDA DEALER, UNLESS THE OWNER HAS PROPER TOOLS AND SERVICE DATA AND IS MECHANICALLY QUALIFIED.

** IN THE INTEREST OF SAFETY, WE RECOMMEND THESE ITEMS BE SERVICED ONLY BY AN AUTHORIZED HONDA DEALER.

NOTES: 1. Service more frequently when riding in dusty areas.
 2. Service more frequently when riding in rain or at full throttle.
 3. For higher odometer readings, repeat at the frequency interval established here.



CM450E

Perform the Pre-Ride Inspection in the Owner's Manual at each scheduled maintenance period.

I : INSPECT AND CLEAN, ADJUST, LUBRICATE, OR REPLACE IF NECESSARY.

C : CLEAN

R : REPLACE

A : ADJUST

L : LUBRICATE

ITEM	FREQUENCY	WHICHEVER → COMES FIRST ↓ EVERY	ODOMETER READING (NOTE 3)						Refer to page
			600mi (1,000km)	4,000mi (6,400km)	8,000mi (12,800km)	12,000mi (19,200km)	16,000mi (25,600km)	20,000mi (32,000km)	
EMISSION RELATED ITEMS	* FUEL LINES		I	I	I	I	I	I	3 - 7
	* FUEL STRAINER		C	C	C	C	C	C	3 - 7
	* THROTTLE OPERATION		I	I	I	I	I	I	3 - 8
	* CARBURETOR-CHOKE		I	I	I	I	I	I	3 - 8
	AIR CLEANER	NOTE 1		C	R	C	R	C	3 - 9
	CRANKCASE BREATHER	NOTE 2		C	C	C	C	C	3 - 11
	SPARK PLUGS			R	R	R	R	R	3 - 11
	* VALVE CLEARANCE		I	I	I	I	I	I	3 - 12
	ENGINE OIL	YEAR	R	REPLACE EVERY 2,000 mi (3,200 km)					2 - 3
	ENGINE OIL FILTER	YEAR	R	R	R	R	R	R	2 - 3
	** BALANCER CHAIN TENSION					A			3 - 12
	* CAM CHAIN TENSION		A	A	A	A	A	A	3 - 14
NON-EMISSION RELATED ITEMS	* CARBURETOR-SYNCHRONIZATION		I	I	I	I	I	I	3 - 15
	* CARBURETOR-IDLE SPEED		I	I	I	I	I	I	3 - 16
	DRIVE CHAIN		I, L EVERY 300 min (500 km)						3 - 17
	BATTERY	MONTH	I	I	I	I	I	I	3 - 19
	BRAKE SHOE WEAR			I	I	I	I	I	3 - 19
	BRAKE SYSTEM		I	I	I	I	I	I	3 - 20
	* BRAKE LIGHT SWITCH		I	I	I	I	I	I	3 - 23
	* HEADLIGHT AIM		I	I	I	I	I	I	3 - 23
	CLUTCH		I	I	I	I	I	I	3 - 24
	SIDE STAND			I	I	I	I	I	3 - 25
	* SUSPENSION		I	I	I	I	I	I	3 - 26
	* NUTS, BOLTS, FASTENERS		I	I	I	I	I	I	3 - 27
	** WHEELS		I	I	I	I	I	I	3 - 27
	** STEERING HEAD BEARING		I		I		I		3 - 28

* SHOULD BE SERVICED BY AN AUTHORIZED HONDA DEALER, UNLESS THE OWNER HAS PROPER TOOLS AND SERVICE DATA AND IS MECHANICALLY QUALIFIED.

** IN THE INTEREST OF SAFETY, WE RECOMMEND THESE ITEMS BE SERVICED ONLY BY AN AUTHORIZED HONDA DEALER.

NOTES: 1. Service more frequently when riding in dusty areas.
2. Service more frequently when riding in rain or at full throttle.
3. For higher odometer readings, repeat at the frequency interval established here.



CB450T

Perform the Pre-Ride Inspection in the Owner's Manual at each scheduled maintenance period.

I : INSPECT AND CLEAN, ADJUST, LUBRICATE, OR REPLACE IF NECESSARY.

C : CLEAN

R : REPLACE

A : ADJUST

L : LUBRICATE

ITEM			FREQUENCY	WHICHEVER → COMES FIRST ↓	ODOMETER READING (NOTE 3)							Refer to page
					600mi (1,000km)	4 000mi (6,400km)	8 000mi (12,800km)	12 000mi (19,200km)	16 000mi (25,600km)	20 000mi (32,000km)		
				EVERY								
EMISSION RELATED ITEMS	*	FUEL LINES			I	I	I	I	I		3 – 7	
	*	FUEL STRAINER		C	C	C	C	C	C		3 – 7	
	*	THROTTLE OPERATION		I	I	I	I	I	I		3 – 8	
	*	CARBURETOR-CHOKE			I	I	I	I	I		3 – 8	
		AIR CLEANER	NOTE 1		C	C	C	C	C		3 – 10	
		CRANKCASE BREATHER	NOTE 2		C	C	C	C	C		3 – 11	
		SPARK PLUGS			R	R	R	R	R		3 – 11	
	*	VALVE CLEARANCE		I	I	I	I	I	I		3 – 12	
		ENGINE OIL	YEAR	R	REPLACE EVERY 2,000 mi (3,200 km)						2 – 3	
		ENGINE OIL FILTER	YEAR	R	R	R	R	R	R		2 – 3	
	**	BALANCER CHAIN TENSION					A				3 – 12	
	*	CAM CHAIN TENSION		A	A	A	A	A	A		3 – 14	
	*	CARBURETOR-SYNCHRONIZATION		I	I	I	I	I	I		3 – 15	
NON-EMISSION RELATED ITEMS	*	CARBURETOR-IDLE SPEED		I	I	I	I	I	I		3 – 16	
		DRIVE CHAIN		I, L EVERY 300 mi (500 km)								3 – 17
		BATTERY	MONTH	I	I	I	I	I	I		3 – 19	
		BRAKE FLUID (FRONT)	MONTH 2 YEARS *R	I	I	I	*R	I	I		3 – 19	
		BRAKE SHOE/PAD WEAR			I	I	I	I	I		3 – 19	
		BRAKE SYSTEM		I	I	I	I	I	I		3 – 20	
	*	BRAKE LIGHT SWITCH		I	I	I	I	I	I		3 – 23	
	*	HEADLIGHT AIM		I	I	I	I	I	I		3 – 23	
		CLUTCH		I	I	I	I	I	I		3 – 24	
		SIDE STAND			I	I	I	I	I		3 – 25	
	*	SUSPENSION		I	I	I	I	I	I		3 – 26	
	*	NUTS, BOLTS, FASTENERS		I	I	I	I	I	I		3 – 27	
	**	WHEELS		I	I	I	I	I	I		3 – 27	
	**	STEERING HEAD BEARING		I		I		I			3 – 28	

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** IN THE INTEREST OF SAFETY, WE RECOMMEND THESE ITEMS BE SERVICED ONLY BY AN AUTHORIZED HONDA DEALER.

NOTES: 1. Service more frequently when riding in dusty areas.
 2. Service more frequently when riding in rain or at full throttle.
 3. For higher odometer readings, repeat at the frequency interval established here.



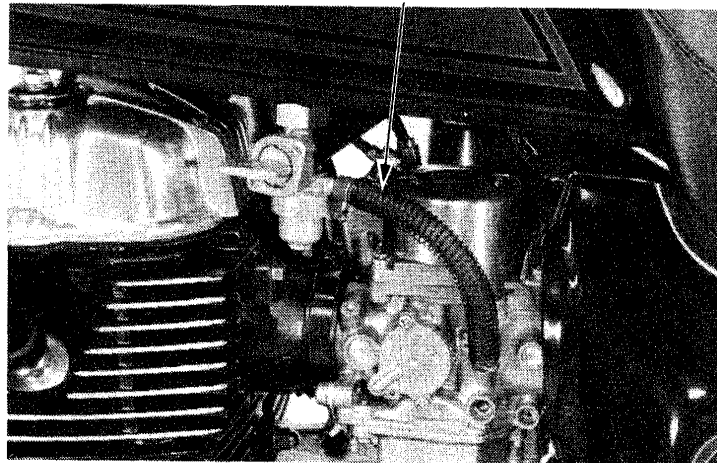
ENGINE

FUEL LINES

Check the fuel liners for deterioration, damage or leakage.

Replace if necessary.

FUEL LINE



FUEL STRAINER

Turn the fuel valve OFF.

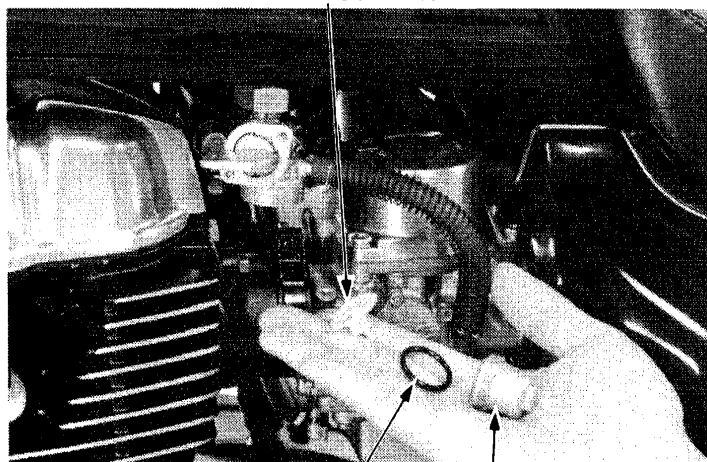
Remove the fuel cup, o-ring and filter screen, draining the gasoline into a suitable container.

WARNING

Gasoline is flammable and is explosive under certain conditions. Do not smoke or allow flames or sparks near the equipment while draining fuel.

Wash the cup and filter screen in clean non-flammable or high flash point solvent.

FILTER SCREEN



O-RING FUEL CUP

Reinstall the screen, aligning the index marks on the fuel valve body and filter screen.

Install a new o-ring into the fuel valve body.

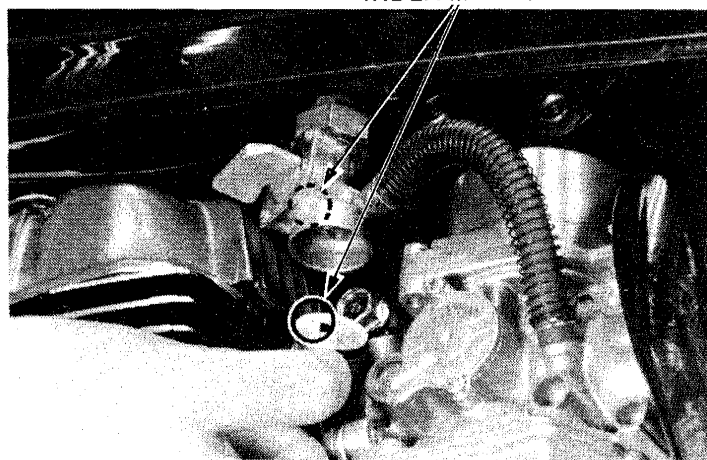
Reinstall the fuel cup, making sure the new o-ring is in place.

Hand tighten the fuel cup. Torque to specification.

TORQUE: 3–5 N·m (0.3–0.5 kg-m, 2–4 ft-lb)

After installing, turn the fuel valve ON and check that there are no fuel leaks.

INDEX MARKS





THROTTLE OPERATION

NOTE

The accelerator pump may flood the carburetors during this inspection.

Check for smooth throttle grip full opening and automatic full closing in all steering positions. Check the throttle cables and replace them if they are deteriorated, kinked or damaged.

Lubricate the throttle cables (page 2-5) if throttle operation is not smooth.

Measure throttle grip free play at the throttle grip flange.

FREE PLAY: 2–6 mm (1/8–1/4 in)

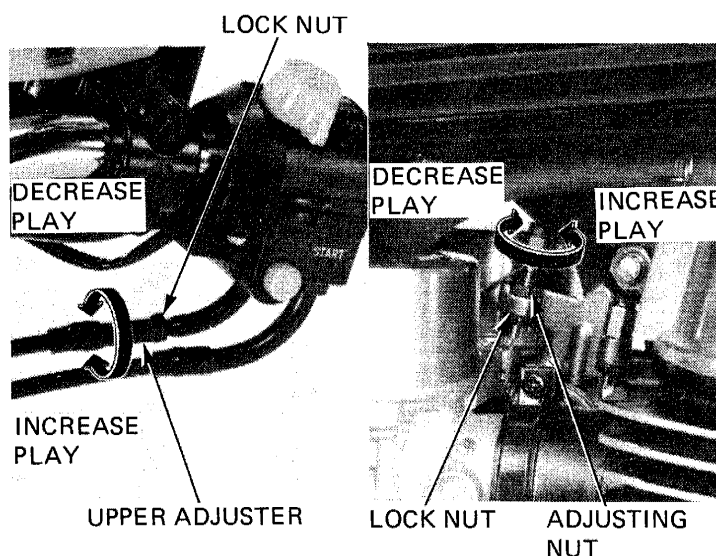
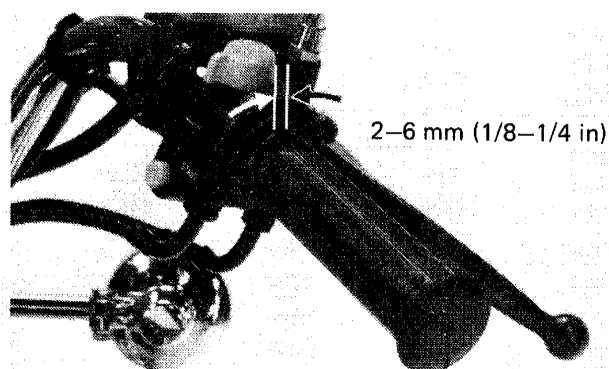
Adjustment can be made at either end of the throttle cable. Minor adjustments are made at the upper end and major adjustments are made at the lower end, after removing the fuel tank.

Adjust free play by loosening the lock nut and turning the adjuster or adjusting nut.

Tighten the lock nut.

Install the fuel tank if removed.

Recheck throttle operation.



CARBURETOR CHOKE

Remove the fuel tank.

Operate the choke knob and check for smooth operation. Lubricate the choke cable, if operation is not smooth.

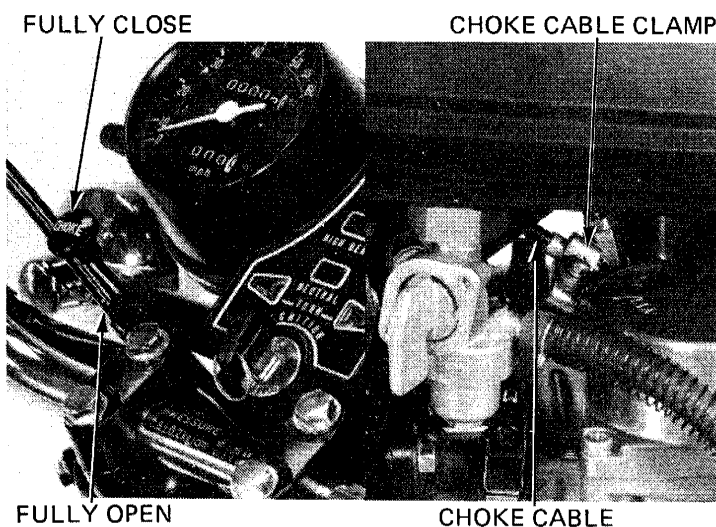
Pull the choke knob up all the way to fully closed. Make sure that the choke valve is fully closed at the carburetors by moving the lever.

To adjust: loosen the choke cable clamp on the carburetor.

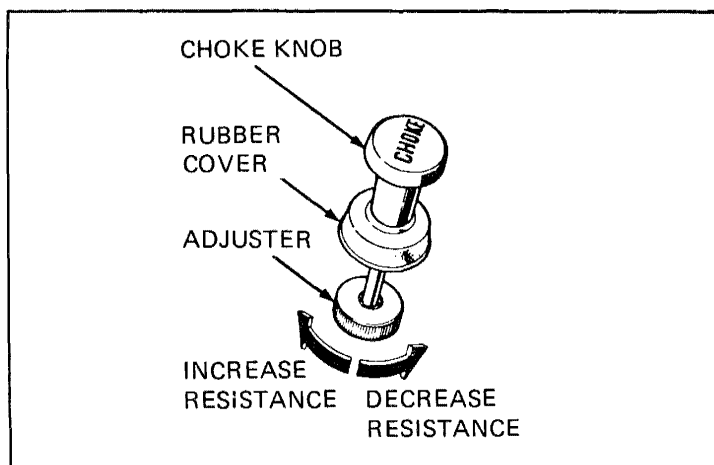
Move the cable casing until the lever is fully closed. Tighten the clamp, holding the choke lever fully closed.

Push the choke knob down all the way to fully open. Make sure the choke valve is fully open by checking for free play in the cable between the lever and cable casing.

Install the fuel tank.



Adjust the choke operating friction by turning the adjuster if necessary. The choke knob must move smoothly and stay where positioned.

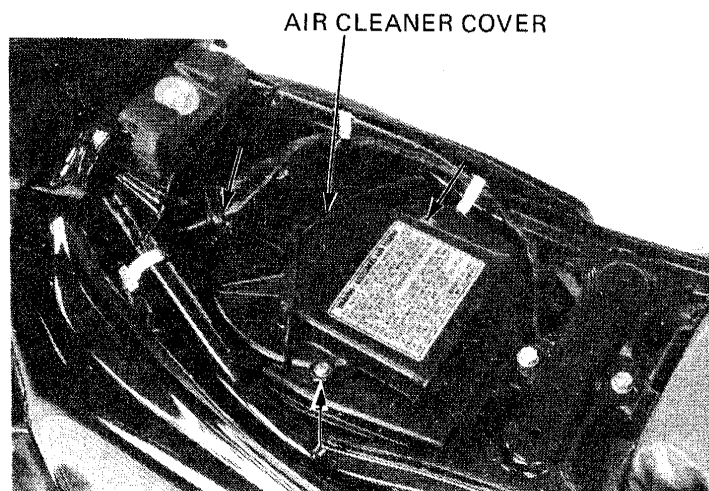


AIR CLEANER

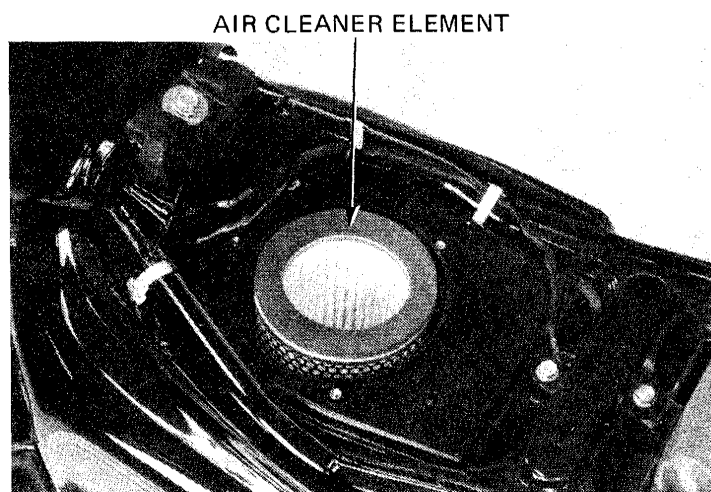
CM450C, E and A

Remove the seat.

Remove the air cleaner cover by removing the attaching screws.



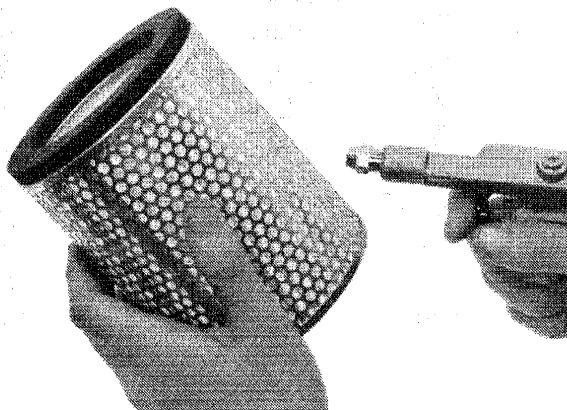
Remove the air cleaner element.



Clean the element by tapping it lightly to loosen dust. Blow away the remaining dust by applying compressed air from outside the element.

Replace the element if it is excessively dirty, torn or damaged.

Install the element, air cleaner cover and seat.



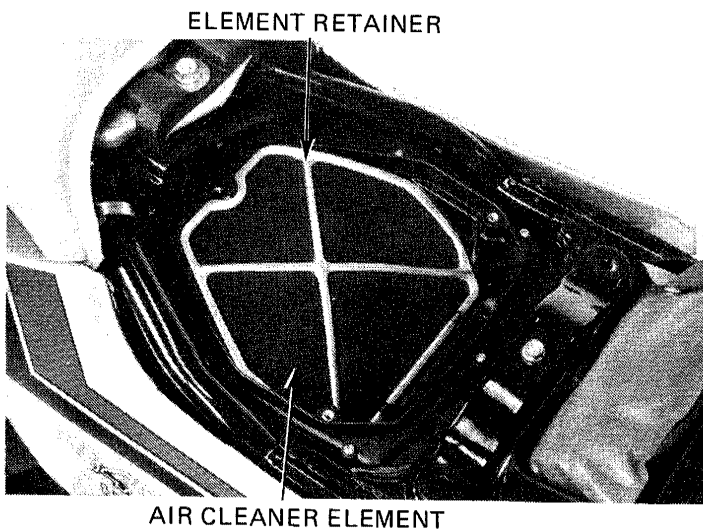
CB450T

Remove the seat.

Remove the air cleaner cover by removing the attaching screws.



Remove the element retainer and element.





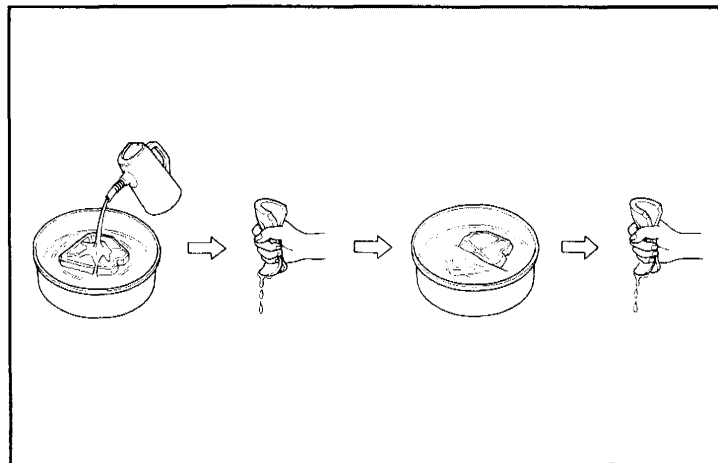
Wash the element in non-flammable or high flash point solvent and allow it to dry thoroughly.

WARNING

Never use gasoline or low flash point solvents for cleaning the air cleaner element. A fire or explosion could result.

Soak the air cleaner element in clean gear oil (SAE 80 or 90) and squeeze out the excess.

To install the air cleaner element, reverse the removal procedure.

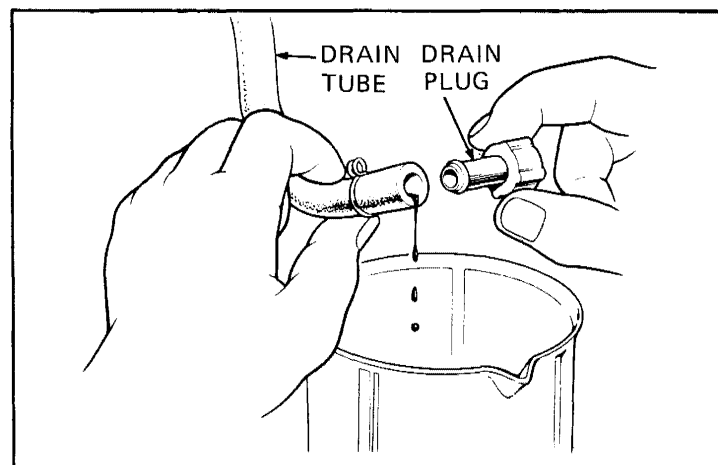


CRANKCASE BREATHER

Remove plugs from the two drain tubes to empty around the spark plug bases. Remove and discard the spark plugs.

NOTE

Service more frequently when ridden in rain, or full throttle or if the deposit level can be seen in the transparent section of the drain tubes.



SPARK PLUGS

Disconnect the spark plug caps. Clean any dirt from around the spark plug bases. Remove and discard the spark plugs.

Make sure the new spark plug gap is 0.6–0.7 mm (0.024–0.028 in), using a wire type feeler gauge. If adjustment is necessary, bend the side electrode carefully.

SPARK PLUG GAP: 0.6–0.7 mm (0.024–0.028 in)

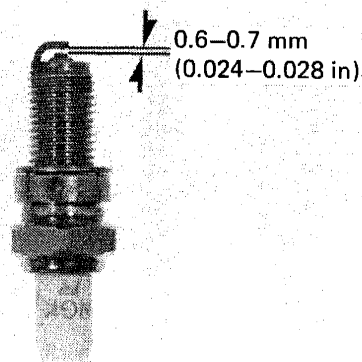
RECOMMENDED SPARK PLUG

	NGK	ND
Standard	DR8ES-L	X24ESR-U
For cold climate (below 5°C, 41°F)	DR7ES	X22ESR-U
For extended high speed riding	DR8ES	X27ESR-U

With the plug washers attached, thread the new spark plugs by hand to prevent cross threading.

Tighten the spark plugs 1/2 turn with a spark plug wrench to compress the washers.

Connect the spark plug caps.





INSPECTION AND ADJUSTMENT

VALVE CLEARANCE

NOTE

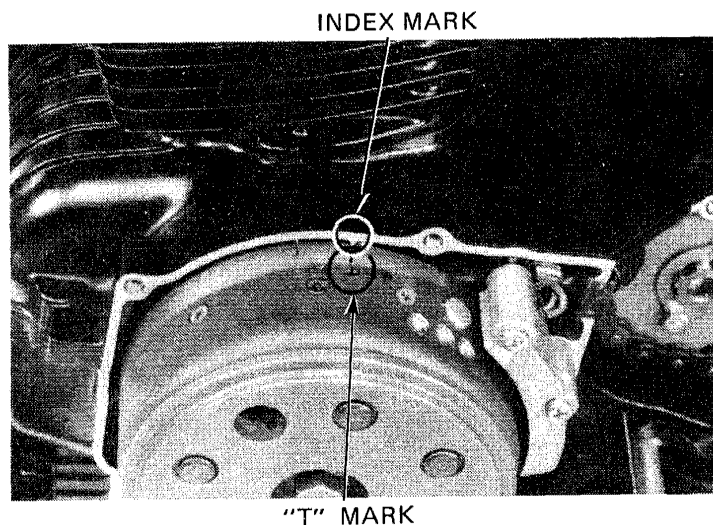
Inspect and adjust valve clearance while the engine is cold. (Below 35°C, 95°F)

Remove the seat.

Turn the fuel valve "OFF" and remove the fuel tube and fuel tank.

Remove the gear change pedal, left crankcase cover and cylinder head cover.

Rotate the crankshaft counterclockwise and align the rotor "T" mark with the crankcase index mark. Make sure the piston is at TDC (top dead center) on the compression stroke. The cylinder with the loose rocker arms is the one with its piston at TDC.



Check the intake and exhaust valve clearance by inserting a feeler gauge between the adjusting screw and the valve stem.

VALVE CLEARANCE:

IN: 0.10 mm (0.004 in)

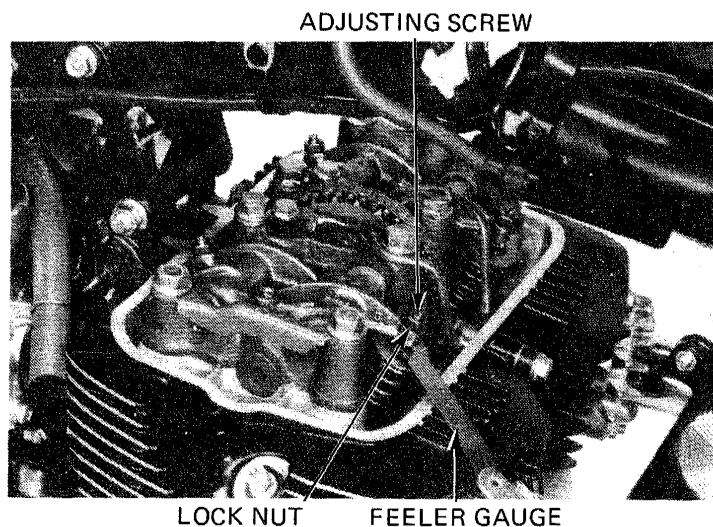
EX: 0.14 mm (0.006 in)

Adjust by loosening the lock nut and turning the adjusting screw until there is a slight drag on the feeler gauge.

Hold the adjusting screw and tighten the lock nut. Recheck the valve clearance.

Rotate the crankshaft counterclockwise one full turn (360°) and align the "T" mark with the index mark.

Check the intake and exhaust valve clearance for the opposite cylinder using the procedures given above. Install the removed parts in the reverse order of disassembly.



BALANCER CHAIN TENSION

CB450T/CM450C, E:

Perform the following if the balancer chain is noisy. Remove the adjust cap on the right crankcase cover.

Loosen the 8 mm adjuster nut.

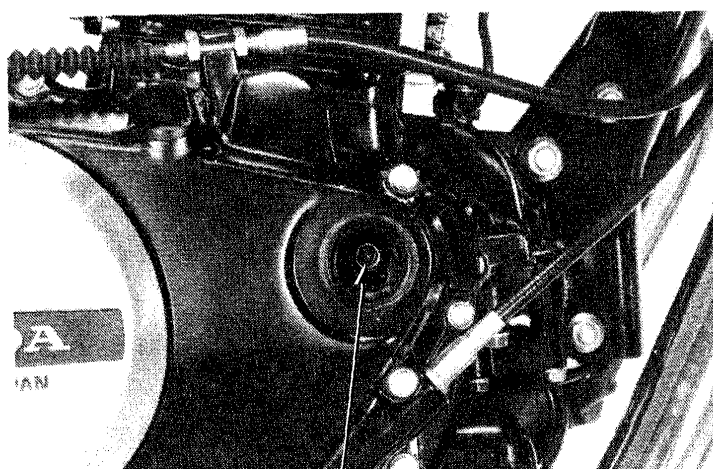
When this nut is loosened, the balancer will position itself to provide proper chain tension.

Retighten the 8 mm nut to specified torque.

TORQUE: 20–25 N·m (2.0–2.5 kg·m, 14–18 ft·lb)

NOTE

Readjust as follows if the end of the stopper plate groove contacts the stud bolt.





Remove the right crankcase cover.

Remove the 10 mm and 8 mm nuts; remove the stopper plate.

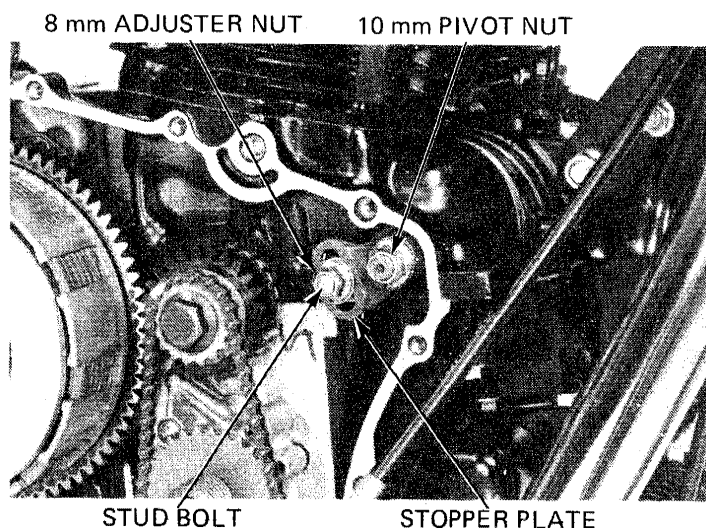
Install the stopper plate, moving it over one spline to move the end of the stopper plate groove away from the stud bolt.

Reinstall the 8 mm nut first and then the 10 mm nut and tighten to the specified torques.

TORQUE:

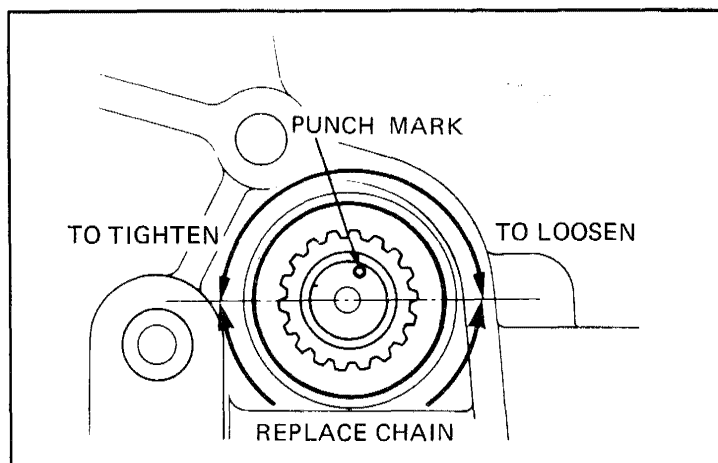
8mm: 20–25 N·m (2.0–2.5 kg·m, 14–18 ft·lb)

10mm: 30–35 N·m (3.0–3.5 kg·m, 22–25 ft·lb)



CAUTION:

*Replace the chain if the punch mark on the shaft is below the horizontal line.
(Refer to Section 13)*



CM450A:

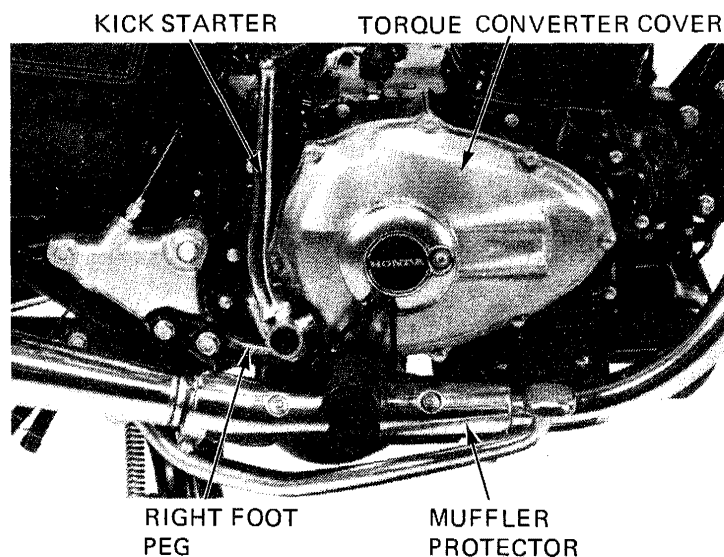
Perform the following if the balancer chain is noisy.

Drain the engine oil.

Remove the kick starter, right foot peg and muffler protector.

Remove the torque converter cover and pull out the torque converter.

Remove the torque converter case.





INSPECTION AND ADJUSTMENT

Loosen the 8 mm adjuster nut.

When this nut is loosened, the balancer will position itself to provide proper chain tension. Retighten the 8 mm nut to specified torque.

TORQUE: 20–25 N·m (2.0–2.5 kg·m, 14–18 ft·lb)

NOTE

Readjust as follows if the end of the stopper plate groove contacts the stud bolt.

Remove the 10 mm and 8 mm nuts; remove the stopper plate.

Install the stopper plate, moving it over one spline to move the end of the stopper plate groove away from the stud bolt.

Reinstall the 8 mm nut first and then the 10 mm nut and tighten to the specified torques.

TORQUE:

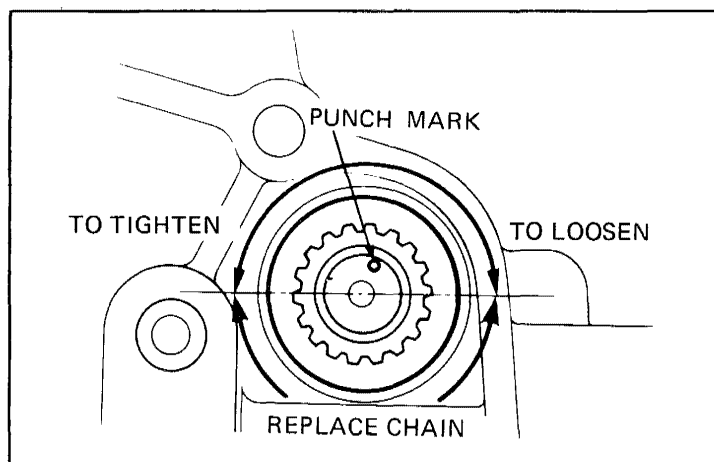
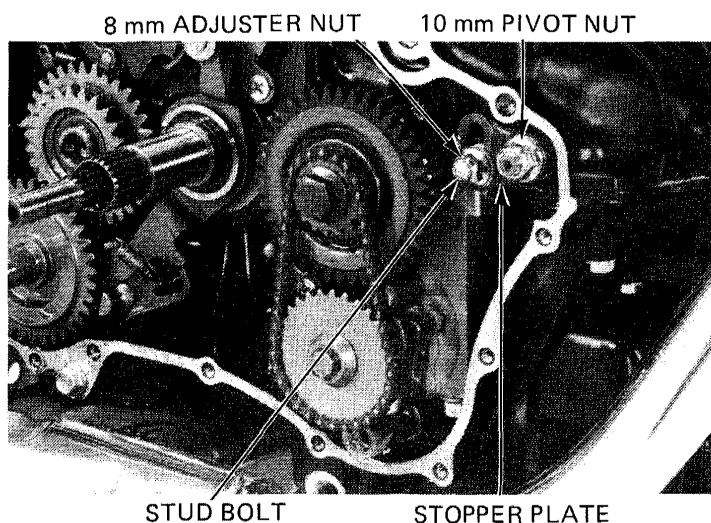
8mm: 20–25 N·m (2.0–2.5 kg·m, 14–18 ft·lb)

10mm: 30–35 N·m (3.0–3.5 kg·m, 22–25 ft·lb)

CAUTION:

*Replace the chain if the punch mark on the shaft is below the horizontal line.
(Refer to Section 13)*

Install the removed parts in the reverse order of disassembly.



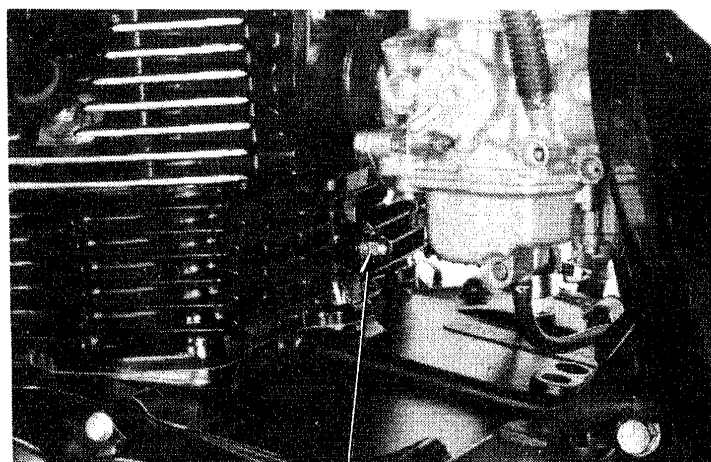
CAM CHAIN TENSION

Start the engine and allow it to idle.

Loosen the cam chain tensioner lock nut.

When the cam chain tensioner lock nut is loosened, the tensioner will automatically position itself to provide the correct tension.

Retighten the lock nut.



TENSIONER LOCK NUT



CARBURETOR SYNCHRONIZATION

NOTE

Perform this maintenance with the engine at normal operating temperature, transmission in neutral and motorcycle on its center stand or supported upright.

On CM450A and E, connect a tachometer.

Warm up the engine and check that the idle speed is within specification.

IDLE SPEED:

CM450C, E and CB450T: $1,200 \pm 100$ rpm

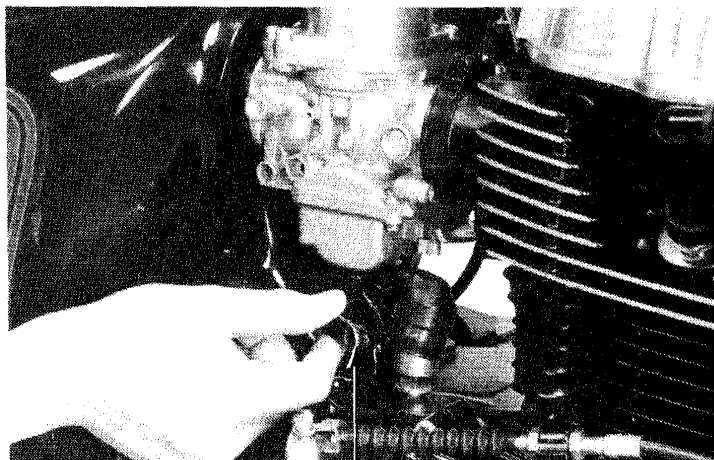
CM450A: $1,250 \pm 100$ rpm

Put the motorcycle upright and remove the fuel tank and seat. Connect a longer fuel line between the fuel tank and carburetors. Remove the plugs from the cylinder head ports and install vacuum gauge adaptors.

Connect vacuum gauges.

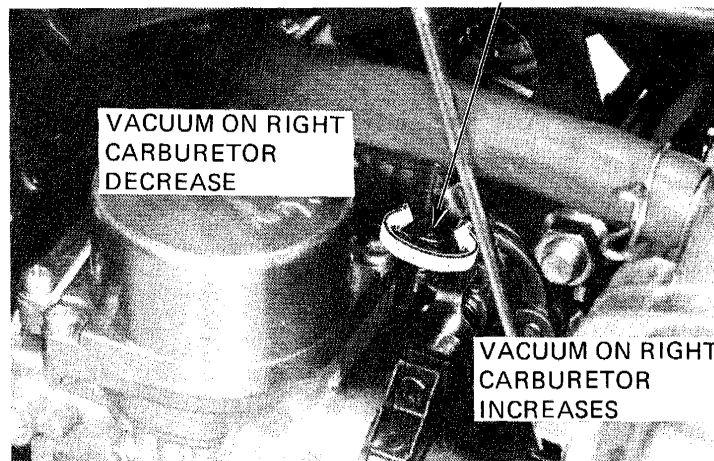
Position the throttle adjusting wrench on the balance adjusting screw lock nut from under the right carburetor.

Start the engine. The vacuum gauge readings should be as close as possible to each other with a difference no greater than 40 mm (1.6 in) Hg.



CARBURETOR SYNCHRONIZATION WRENCH
H/C 093417 (M2980-350-93417)

BALANCE ADJUSTING SCREW



NOTE

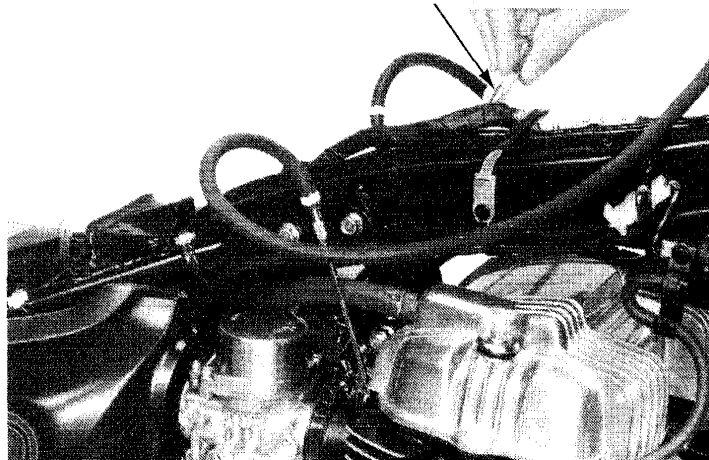
The left carburetor is the base carburetor and cannot be adjusted.

To adjust, loosen the lock nut on the right carburetor and turn the adjusting screw. While holding the adjusting screw, retighten the lock nut.

Readjust idle speed and synchronization.

Remove the vacuum gauge adaptors and install the removed parts in the reverse order of disassembly.

SCREWDRIVER



CARBURETOR IDLE SPEED

NOTE

- Inspect and adjust idle speed after all other engine adjustments are within specifications.
- The engine must be warm for accurate idle inspection and adjustment. Ten minutes of stop and go riding is sufficient.

On CM450A and E, connect a tachometer.

Warm up the engine, shift the transmission into NEUTRAL, and place the motorcycle on its center stand (or a support block).

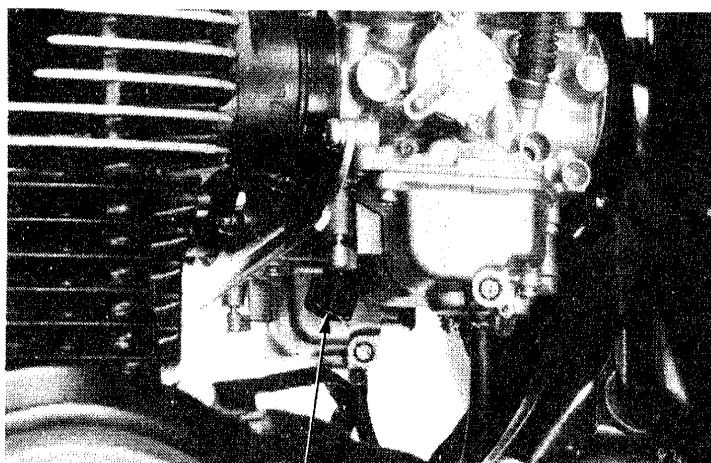
Turn the throttle stop screw as required to obtain the specified idle speed.

IDLE SPEED:

CM450C, E and CB450T: 1,200 ± 100 rpm
 CM450A: 1,250 ± 100 rpm

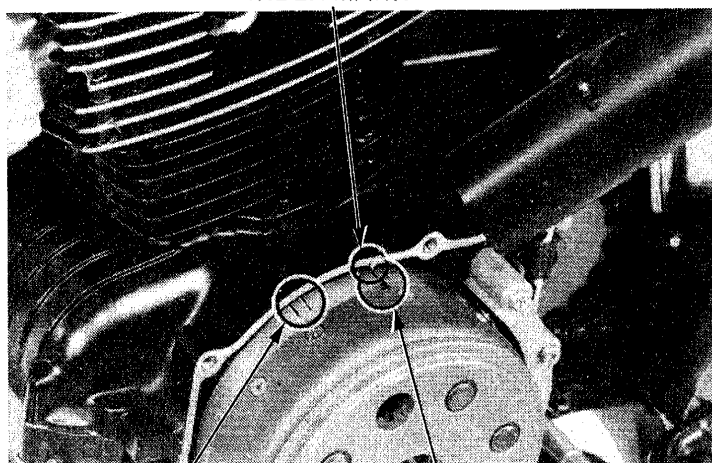
NOTE

- The pilot screw is factory pre-set. Do not adjust the pilot screw except after overhauling the carburetor.
- If a high altitude adjustment is required, refer to Section 4.



THROTTLE STOP SCREW

INDEX MARK



ADVANCE MARK

"F" MARK

IGNITION TIMING

NOTE

The Capacitive Discharge Ignition system is factory pre-set and cannot be adjusted. To inspect the function of the DCI components, ignition timing inspection procedures are given here.

CM450C, E, CB450T

On CM450E, connect a tachometer.

Remove the left crankcase cover.

Check the ignition timing using a timing light (07308-0070000).

Timing is correct if the index mark aligns with the "F" mark at idle.

Also check that the index mark is between the advance marks at 5,350 rpm.

If the ignition timing is incorrect, check the CDI unit and AC generator and replace any faulty parts.

CM450A

Place the motorcycle on its center stand.

Remove the left crankcase cover.

Connect a tachometer.

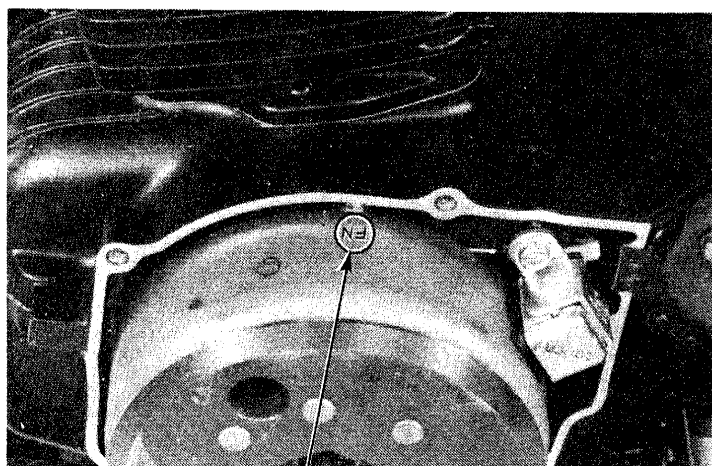
Check the ignition timing using a timing light (P/N 07308-0070000).

The timing is correct if the "FN" mark aligns with the index mark with the engine idling in neutral.

The "F" mark should also be aligned with the index mark with the engine idling in "1" or "2" range.

Also check that the index mark is between the advance marks at 5,350 rpm.

If the ignition timing is incorrect, check the CDI unit and AC generator and replace any faulty parts.



"FN" MARK



CYLINDER COMPRESSION

Warm up the engine.

Stop the engine.

Disconnect the spark plug caps and remove the spark plugs.

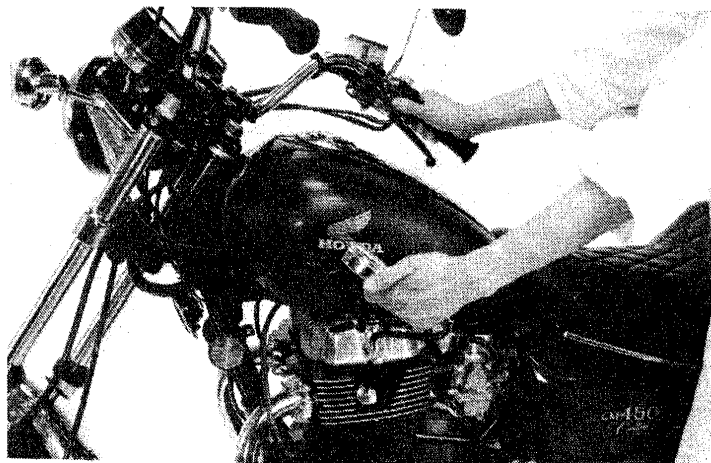
Insert the compression gauge.

Open the choke and throttle valves fully.

Crank the engine with the starter motor.

NOTE

Crank the engine until the gauge reading stops rising. The maximum reading is usually reached within 4–7 seconds.



COMPRESSION PRESSURE:

$1,270 \pm 98 \text{ kPa}$ ($13 \pm 1 \text{ kg/cm}^2$, $185 \pm 14 \text{ psi}$)

If compression is low, check the following:

- Leaky valves
- Improper valve clearance (too tight)
- Leaking cylinder head gasket
- Worn piston/ring/cylinder

If compression is high, it indicates that carbon deposits have accumulated on the combustion chamber or the piston crown.

CHASSIS DRIVE CHAIN

Place the motorcycle on its center stand (or a support block) and shift the transmission into neutral. Check the slack in the lower drive chain run midway between the sprockets.

STANDARD SLACK: 15–25 mm (5/8–1 in)

Adjust as follows:

NOTE

On CB450T, Remove the cotter pin from the rear axle nut.

Loosen the rear axle nut.

Loosen the lock nuts on both adjusting bolts.

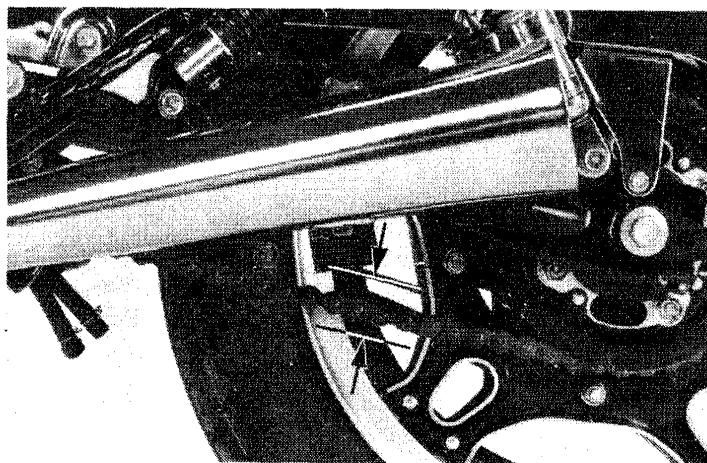
Turn both adjusting bolts an equal number of turns until the correct drive chain slack is obtained.

NOTE

Be sure that the index mark aligns with the same graduation on the scale on both side.

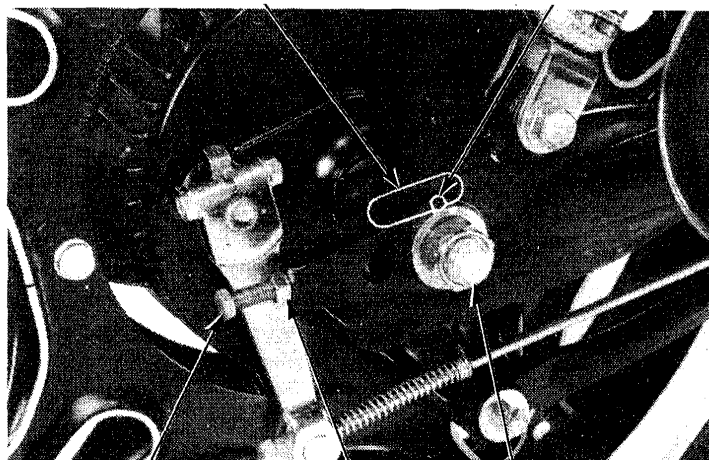
Tighten the rear axle nut to the specified torque.

TORQUE: 70–100 N·m (7–10 kg·m, 51–72 ft·lb)



GRADUATION ON SCALE

INDEX MARK



ADJUSTING BOLT

LOCK NUT

AXLE NUT

NOTE

On CB450T, secure the axle nut with a new cotter pin.

Tighten both adjusting bolt lock nuts.
Lubricate the drive chain.

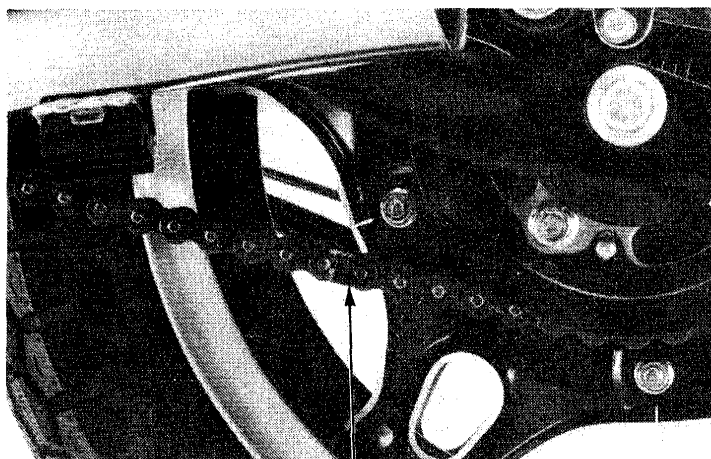
CLEANING/LUBRICATION

If the drive chain is excessively dirty, it should be removed and cleaned prior to lubrication.

Remove the master link retaining clip with pliers.

NOTE

Do not bend or twist the clip.



MASTER LINK RETAINING CLIP

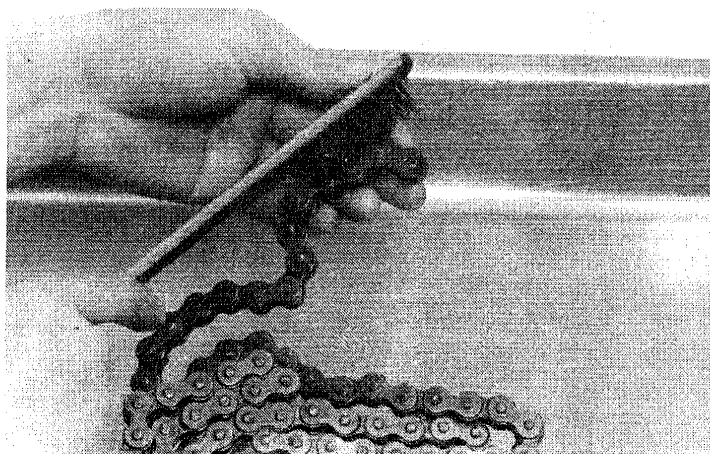
Remove the master link and drive chain.

Clean the drive chain with non-flammable or high flash point solvent and a stiff brush and allow to dry. Inspect the drive chain for possible wear or damage. Replace the chain if it is damaged or excessively worn.

Inspect the sprocket teeth for excessive wear or damage. Replace if necessary.

CAUTION:

Never install a new drive chain on worn sprockets or a worn chain on new sprockets. Both chain and sprockets must be in good condition, or the new replacement chain or sprockets will wear rapidly.

**NOTE**

Commercial aerosol type drive chain lubricants are recommended.

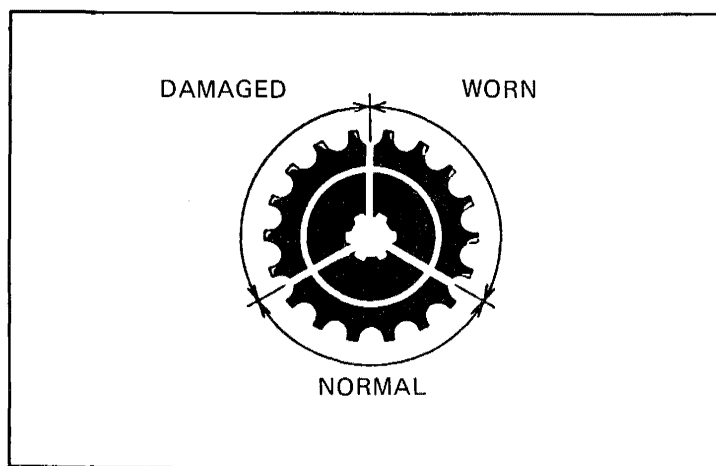
Lubricate the drive chain; saturate each chain link joint.

Install the drive chain and master link.

Install the master link retaining clip so that the closed end faces the direction of chain travel.

Master links are reusable if they remain in excellent condition, but it is recommended that a new master link be installed whenever the drive chain is re-installed.

Adjust the drive chain slack.





BATTERY

Remove the right side cover and check the battery electrolyte level.

The electrolyte level must be maintained between the upper and lower level marks. If necessary add distilled water to the upper level mark.

Replace the battery, if sulfation forms or sediments (paste) accumulate in the bottom.

NOTE

Add distilled water only. Tap water will shorten the service life of the battery.

WARNING

- The battery electrolyte contains sulfuric acid.
- Protect your eyes, skin and clothing. In case of contact, flush thoroughly with water and call a doctor if electrolyte gets in your eyes.

BRAKE FLUID

Check that the brake fluid reservoir is filled to the upper level mark. If the level is near the lower level mark, fill the reservoir up to the upper level mark.

Check the entire system for leaks if the level is low.

CAUTION:

- When adding brake fluid be sure the reservoir is horizontal before the cap is removed or brake fluid may spill out.
- Use only DOT 3 brake fluid from a sealed container.
- Handle brake fluid with care because it can damage paint and instrument lenses.
- Never allow contaminants (dirt, water, etc.) to enter the brake fluid reservoir.

BRAKE SHOE/PAD WEAR

BRAKE PADS

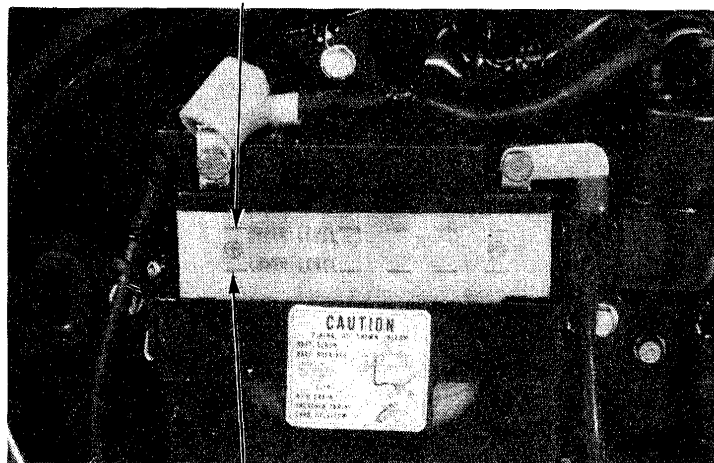
Check the brake pad for wear by looking through the slot indicated by the raised cast arrow on the caliper assembly.

Replace the brake pads if they are worn to the wear line.

CAUTION:

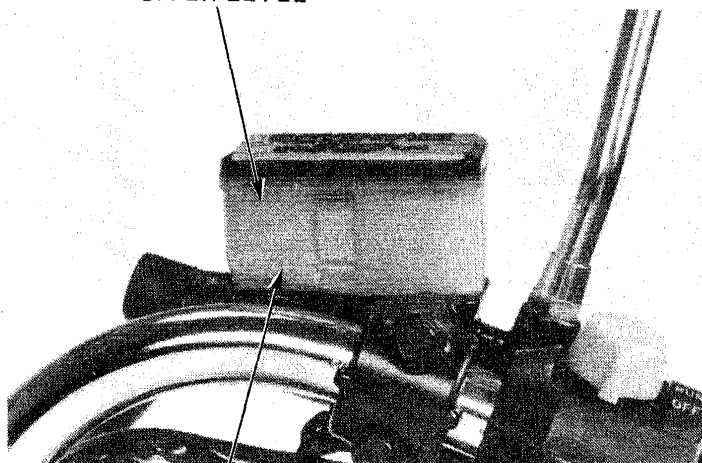
Always replace the brake pads in pairs to assure even disc pressure.

UPPER LEVEL MARK



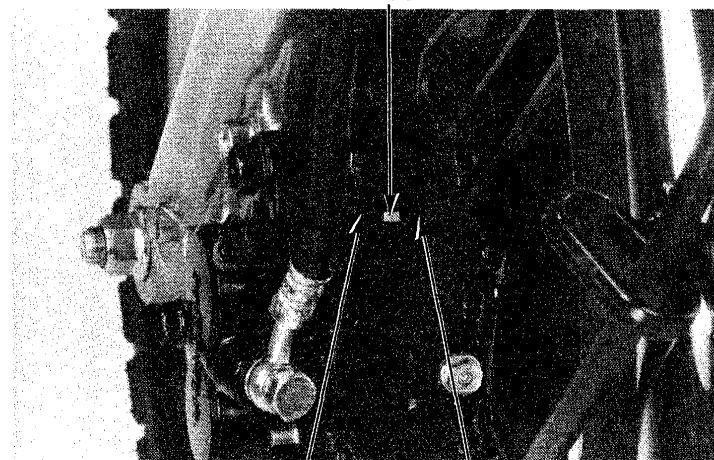
LOWER LEVEL MARK

UPPER LEVEL



LOWER LEVEL

DISC

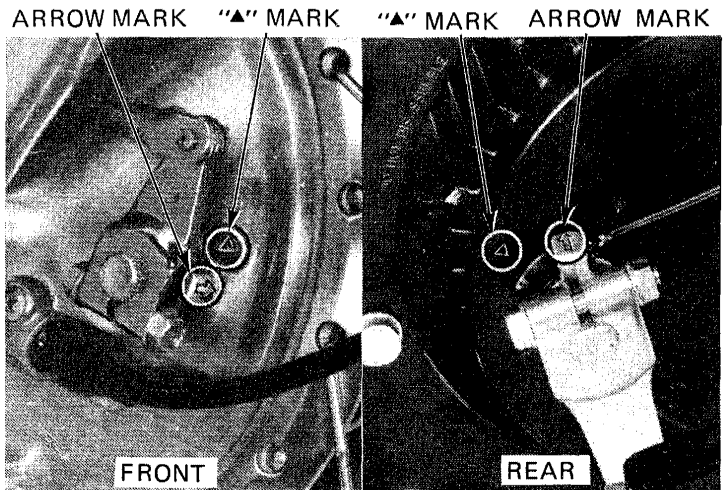


ARROW

WEAR LINE

**BRAKE SHOES**

Replace the brake shoes if the arrow on the brake arm aligns with the reference mark "▲" when the brake is fully applied.

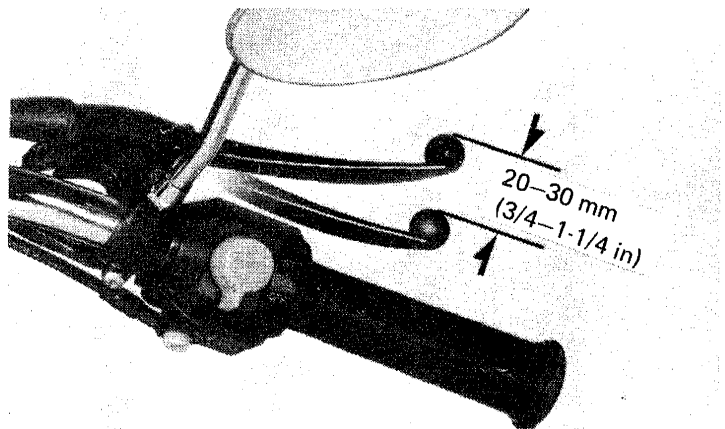
**BRAKE SYSTEM****CM450A/C, CB450T:
FRONT DISC BRAKE**

Check that there is no deterioration, damage or leaks in brake line or fittings.

**CM450E:
FRONT DRUM BRAKE**

Measure the front brake lever free play at the tip of the brake lever.

FREE PLAY: 20–30 mm (3/4–1-1/4 in)



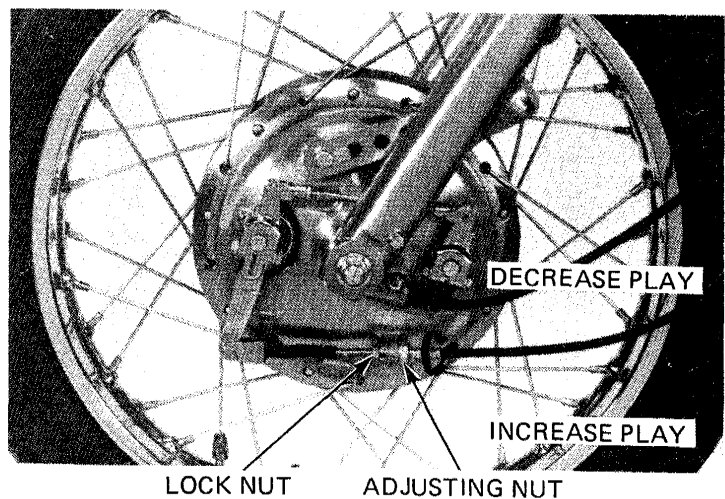
Major adjustment should be made using the adjuster located at the front wheel hub.

Loosen the lock nut and turn the adjusting nut.

Tighten the lock nut.

NOTE

Turn in the upper adjuster on the brake lever before adjusting at the wheel hub.





Minor adjustments can be made with the brake cable adjuster on the brake lever.

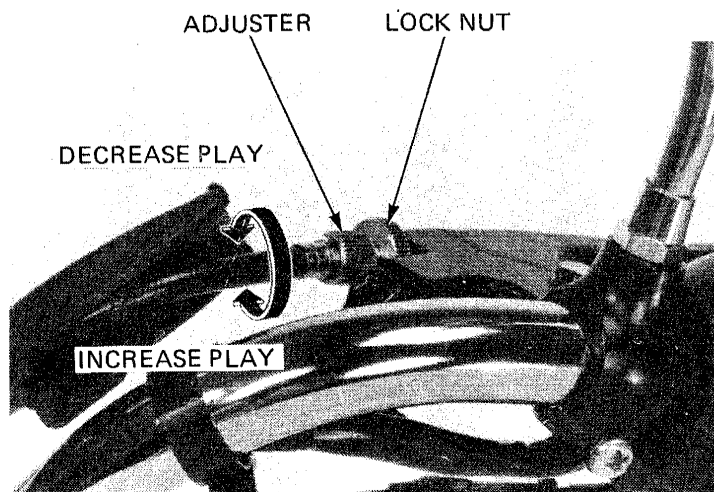
Loosen the lock nut and turn the adjuster.

Recheck the brake operation.

Tighten the lock nut.

Check the brake rod/cable and brake lever/pedal for loose connections, excessive play, bending or other damage.

Replace or repair if necessary.

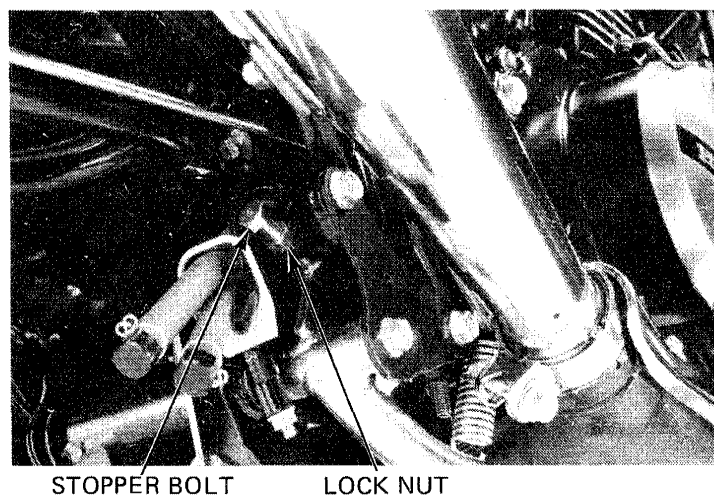


REAR BRAKE

Check the rear brake pedal height.

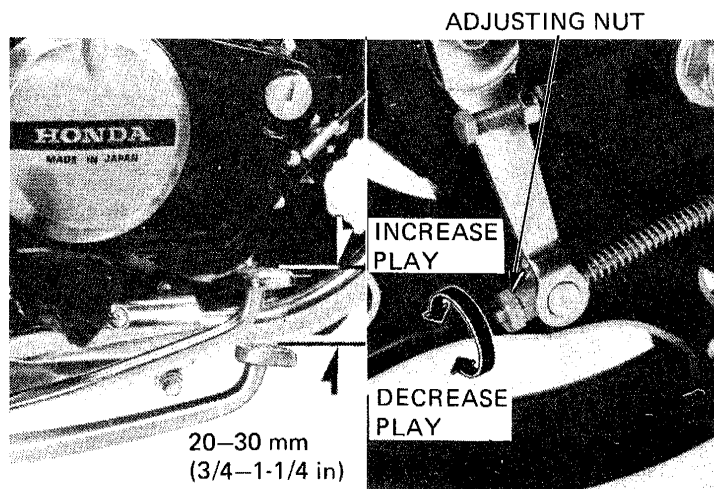
To adjust, loosen the lock nut and turn the stopper bolt.

Tighten the lock nut.

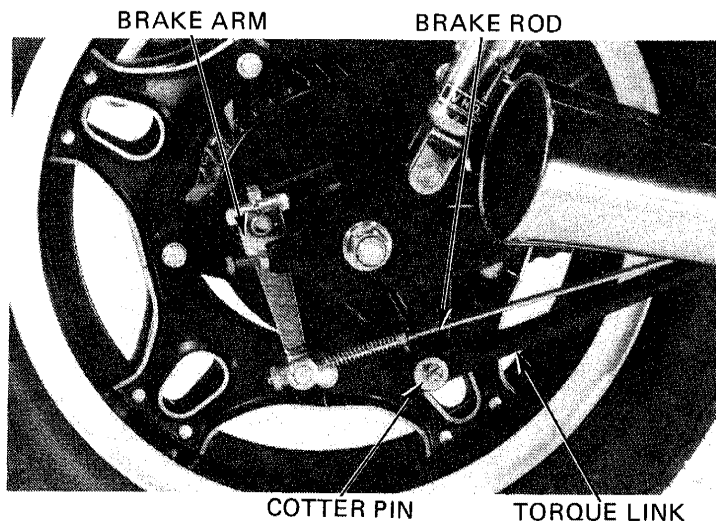


Measure the brake pedal free play and adjust as required by turning the adjusting nut.

FREE PLAY: 20–30 mm (3/4–1-1/4 in)



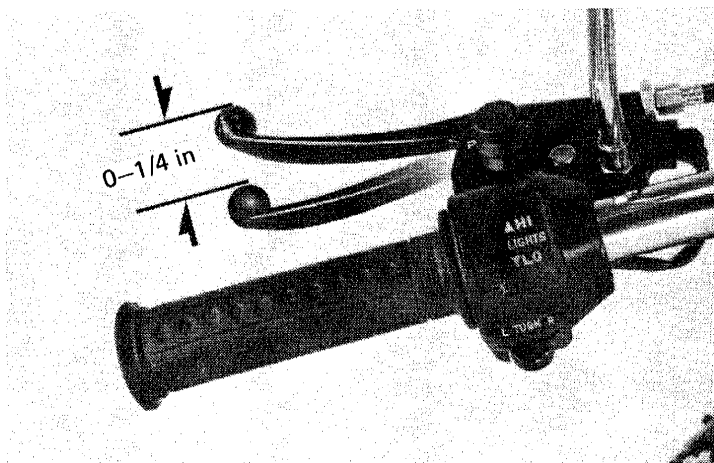
Inspect the brake arm and torque link for loose connections or damage. Check that the cotter pin is properly installed.



PARKING BRAKE (CM450A ONLY)

Measure the parking brake lever free play.

FREE PLAY: 0–5 mm (0–1/4 in)

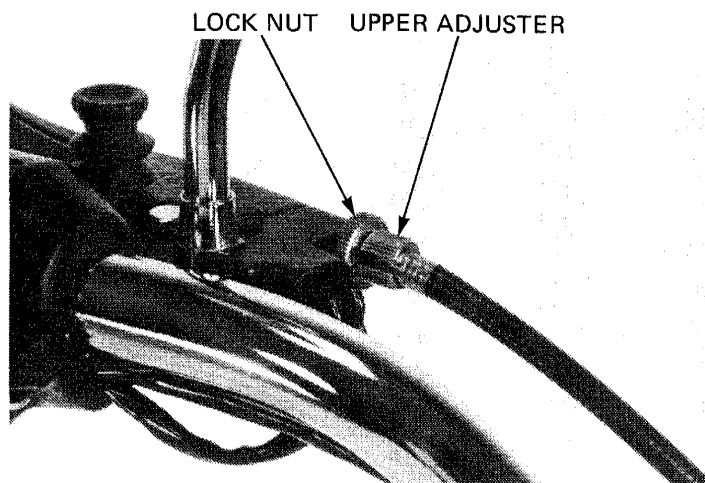


NOTE

Adjust the rear brake pedal height and free play before adjusting the parking brake.

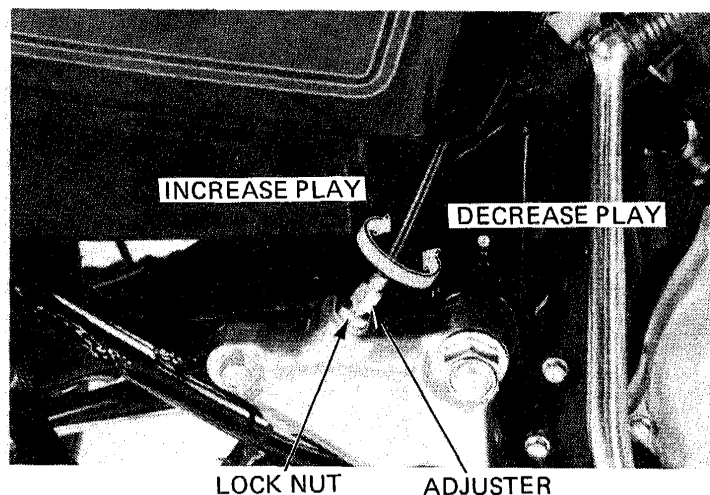
To make minor adjustments, loosen the lock nut and turn the upper adjuster.

Tighten the lock nut.





For major adjustments, loosen the lock nut and turn the lower adjuster either in or out as necessary. Tighten the lock nut.

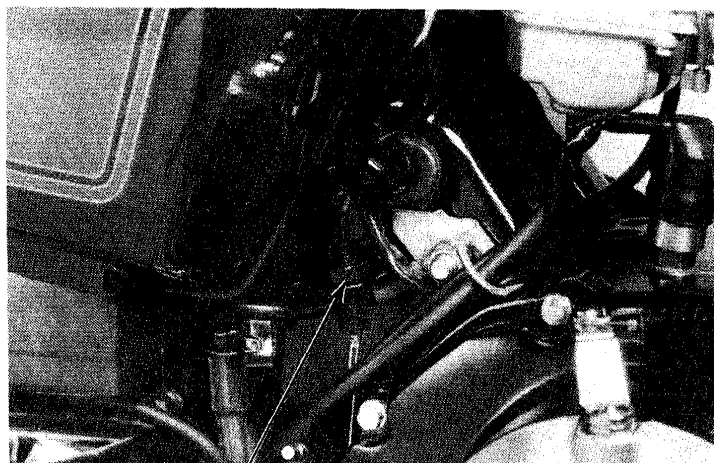


BRAKE LIGHT SWITCH

Adjust the brake light switch so that the brake light will come on when the brake pedal is depressed 20 mm (3/4 in), when the brake begins engagement. Adjust by turning the switch adjusting nut.

NOTE

- Do not turn the switch body.
- The front brake light switch does not require adjustment.



ADJUSTING NUT

HEADLIGHT AIM

Adjust the headlight beam vertically by loosening the front turn signal stays on CM450C/A/E or the headlight case mounting bolts on CB450T.

Adjust the beam horizontally by turning the adjusting screw on the headlight rim.

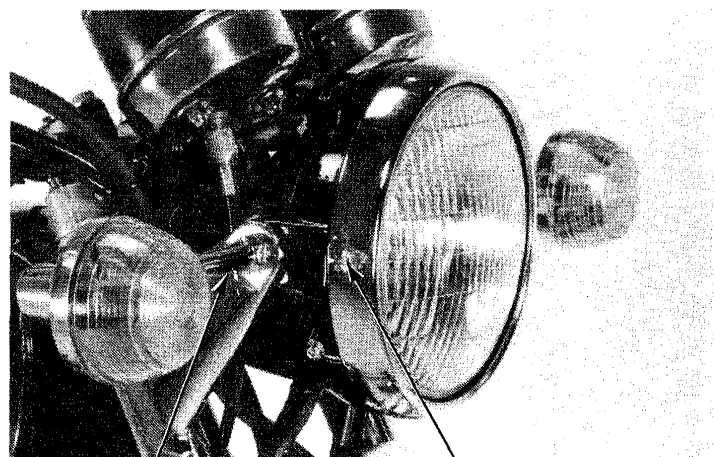
Turning in the adjusting screw directs the beam toward the right side of the rider.

NOTE

Adjust the headlight beam as specified by local laws and regulations.

WARNING

An improperly adjusted headlight may blind oncoming drivers, or it may fail to light the road for a safe distance.



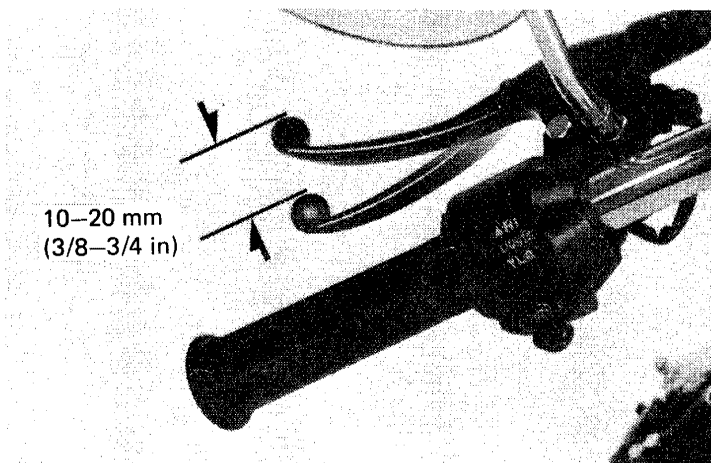
TURN SIGNAL STAY

ADJUSTING SCREW

CB450T, CM450C/E: CLUTCH

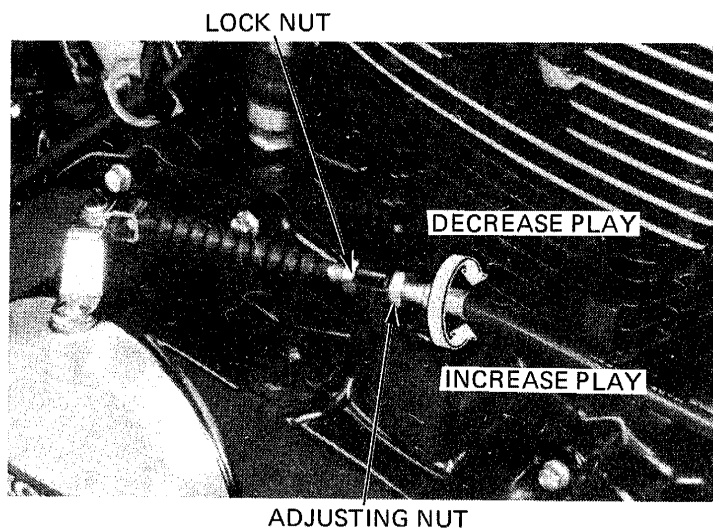
Measure the clutch lever free play at the end of the lever.

FREE PLAY: 10–20 mm (3/8–3/4 in)



Major adjustments should be made using the adjuster at the clutch housing. Loosen the lock nut and turn the clutch cable adjusting nut.

Tighten the lock nut.

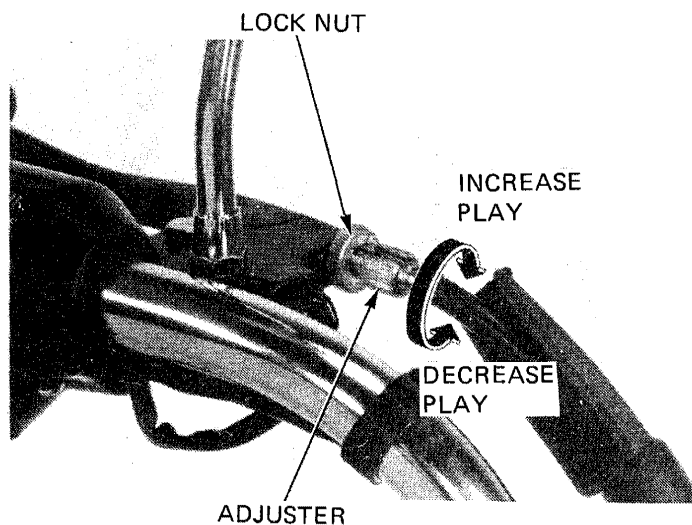


Minor adjustments can be made with the clutch cable adjuster on the clutch lever. Loosen the lock nut and turn the adjuster.

NOTE

Do not expose the threads of the adjuster by more than 8 mm (3/8 in).

Recheck the clutch operation.



SIDE STAND

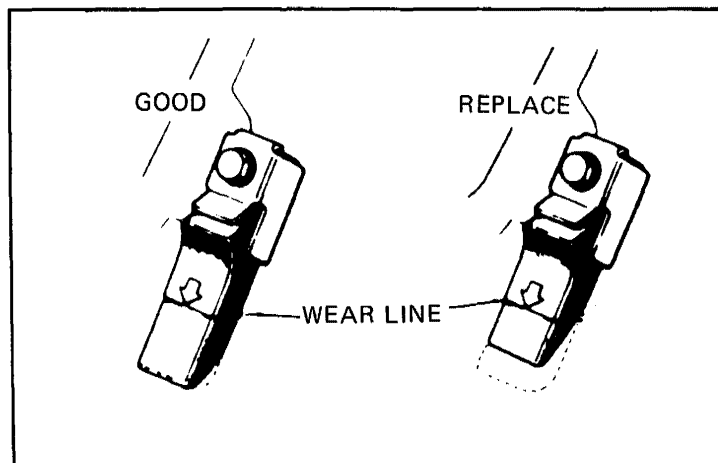
CM450C, E and CB450T:

Check the rubber pad for deterioration or wear.
 Replace if any wear extends to wear line as shown.

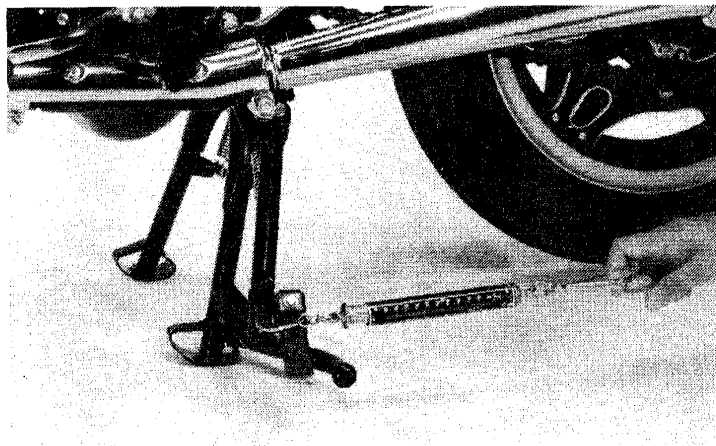
NOTE

When replacing, use a rubber pad with the mark "OVER 260 lbs ONLY".

Check the side stand spring for damage and loss of tension, and the side stand assembly for freedom of movement.



Spring tension is correct if the measurement falls within **2–3 kg (4.4–6.6 lbs)** when pulling the side stand lower end with a spring scale.



CM450A:

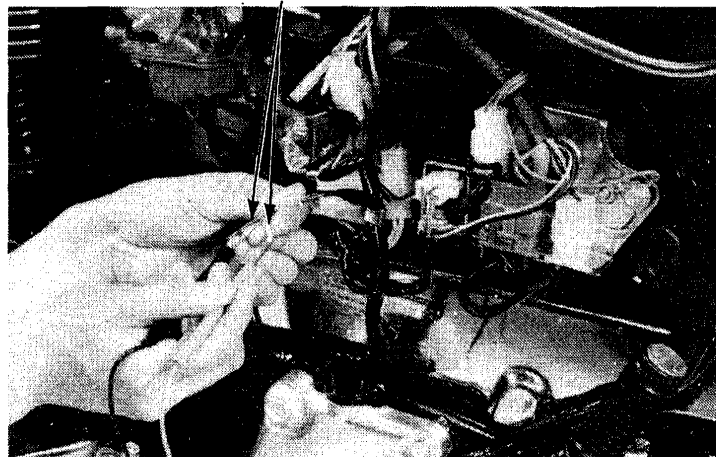
Lower the side stand.

Turn the ignition switch ON.

Disconnect the switch wire lead.

Check for continuity with an electric tester by moving the side stand.

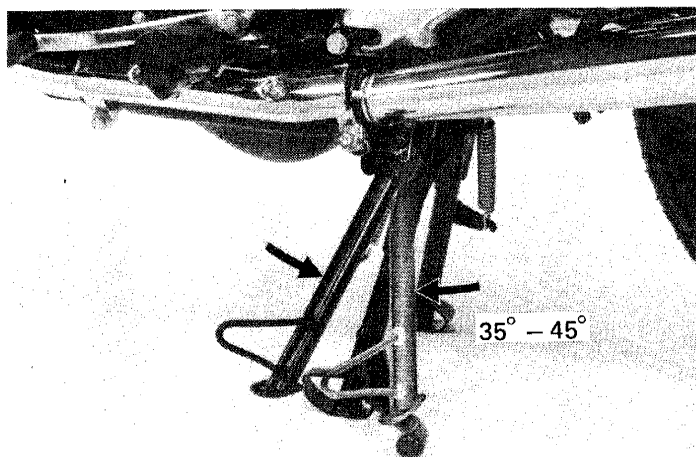
SIDE STAND SWITCH WIRES





INSPECTION AND ADJUSTMENT

The switch is good if there is continuity within 35° and 45° of side stand movement from the applied position.



SUSPENSION

WARNING

Do not ride a vehicle with faulty suspension. Loose, worn or damaged suspension parts impair vehicle stability and control.

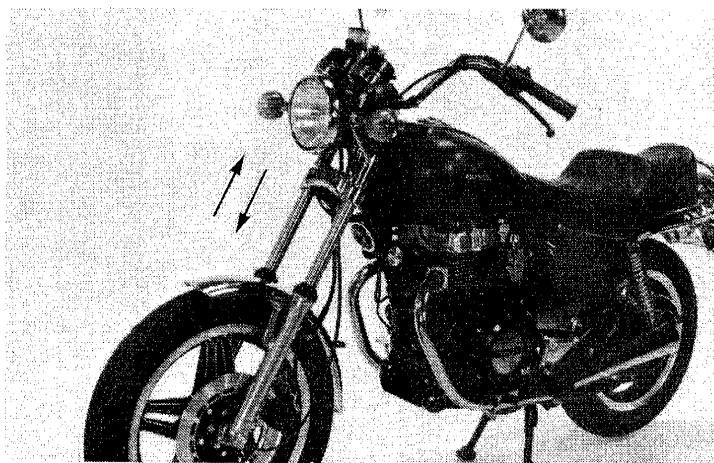
FRONT

Check the action of the front forks by compressing them several times.

Check the entire fork assembly for leaks or damage.

Replace damaged components which cannot be repaired.

Tighten all nuts and bolts.



On air suspension, check the front fork air pressure as follows.

Place the motorcycle on its center stand or support block.

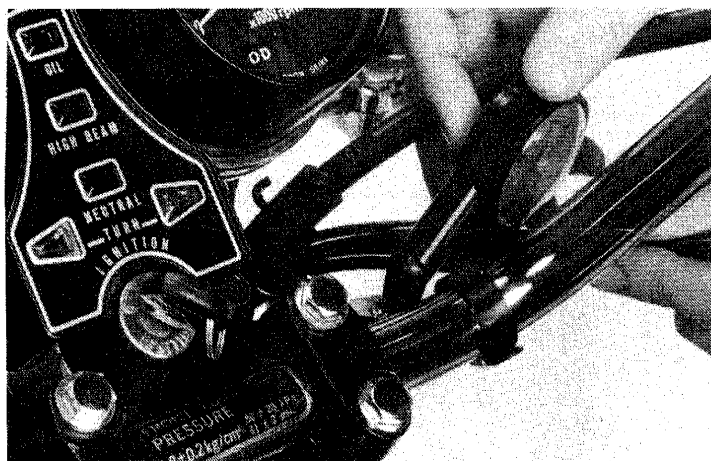
Remove the valve cap and measure the front fork air pressure.

FRONT FORK AIR PRESSURE:

80 ± 20 kPa (0.8 ± 0.2 kg/cm², 11 ± 3 psi)

NOTE

Check the front fork air pressure when the front forks are cold.





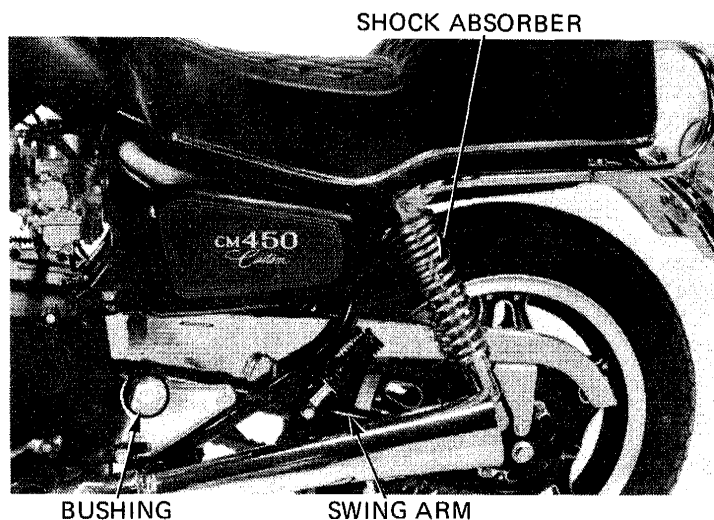
REAR

Place the motorcycle on its center stand or on a support block to raise the rear wheel.

Move the rear wheel sideways with force to check swingarm bushing wear.

Replace the bushings if they are excessively worn.

Check the entire suspension assembly to see if it is securely mounted, damaged or distorted.

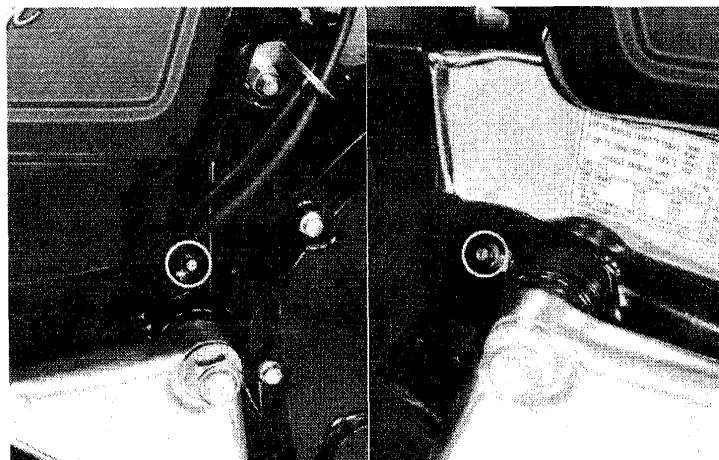


Two lubrication points are located as shown.
Use multipurpose grease, Type NLGI No. 2.

NUTS, BOLTS, FASTENERS

Check that all chassis nuts and bolts are tightened to correct torque values.

Check all cotter pins and safety clips.

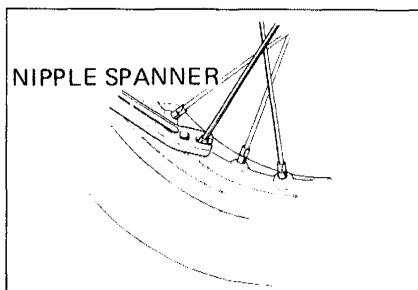


WHEELS/SPOKES/TIRES

CM450E: Check the tightness of the spokes.

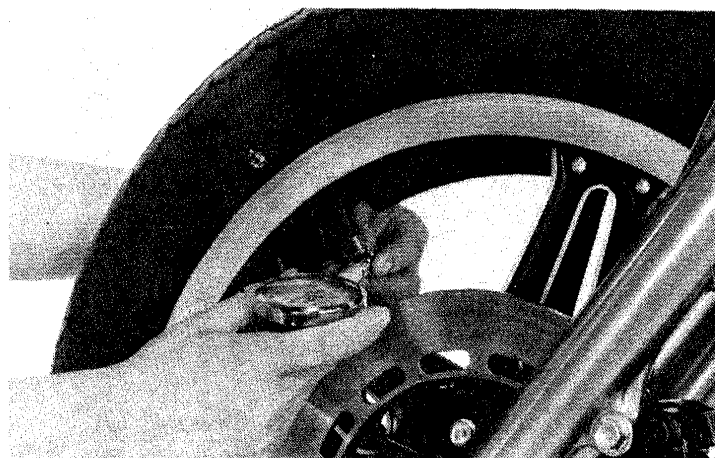
TORQUE:

2.5–3.5 N·m (0.25–0.35 kg·m, 1.4–2.5 ft·lb)



NOTE

Tire pressure should be checked when tires are COLD.



Check the tires for cuts, imbedded nails, or other sharp objects.

INSPECTION AND ADJUSTMENT

RECOMMENDED TIRE SIZE AND PRESSURE

		CM450C, A		CM450E		CB450T	
		Front	Rear	Front	Rear	Front	Rear
Tire size		3.50S18-4PR	4.60S16-4PR	3.50S18-4PR	4.60S16-4PR	3.60S19-4PR	4.10S18-4PR
Cold tire pressures psi (kPa, kg/cm ²)	Up to 90 kg (200 lbs) load	28 (200, 2.0)	28 (200, 2.0)	24 (175, 1.75)	28 (200, 2.0)	28 (200, 2.0)	28 (200, 2.0)
	90 kg (200 lbs) load to vehicle capacity load	28 (200, 2.0)	36 (250, 2.5)	24 (175, 1.75)	36 (250, 2.5)	28 (200, 2.0)	36 (250, 2.5)
Tire brand		TUBELESS ONLY		TUBE TYPE		TUBELESS ONLY	
BRIDGESTONE		S703	L302	S703	L302	S702	L302
DUNLOP		F11	K127	F11	K127	F11	K127
YOKOHAMA		Y-992	Y-987	Y-992	Y-987	Y-992	Y-983

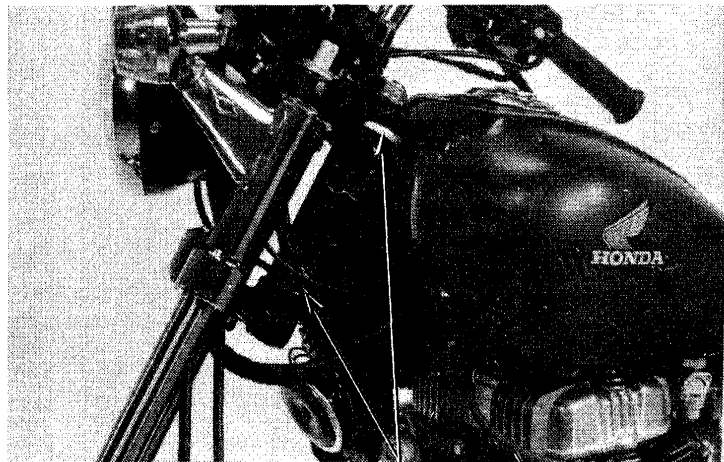
STEERING HEAD BEARING

NOTE

Check that the control cables do not interfere with handlebar rotation.

Raise the front wheel off the ground.
Check that the handlebar rotates freely.

If the handlebar moves unevenly, binds, or has vertical movement, adjust the steering head bearing by turning the steering head adjusting nut (page 15-36).

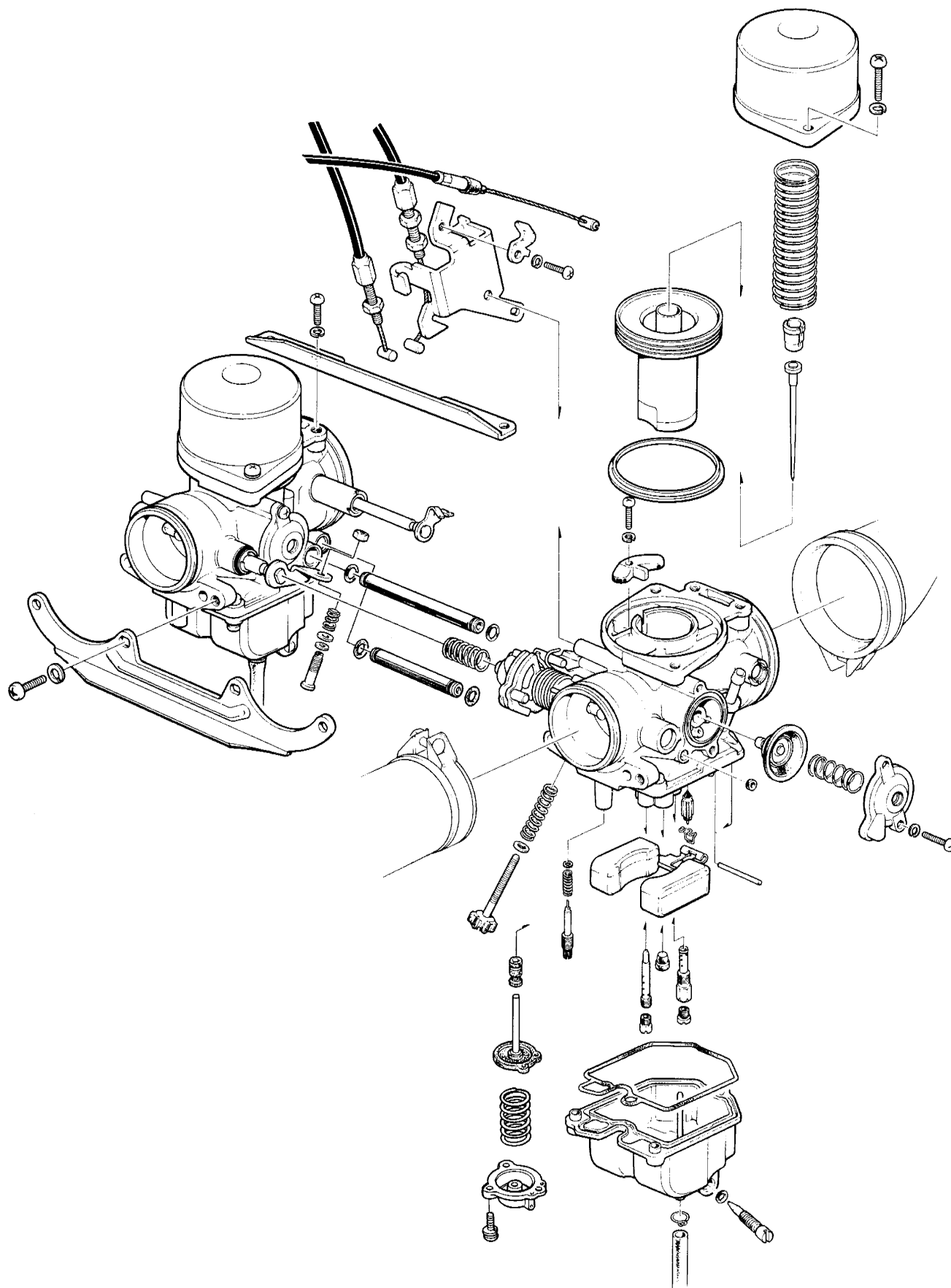


HEAD BEARINGS



HONDA
CB/CM450'S

M E M O





SERVICE INFORMATION	4-1	CARBURETOR ASSEMBLY	4-10
TROUBLESHOOTING	4-2	FAST IDLE ADJUSTMENT	4-10
CARBURETOR REMOVAL	4-3	ACCELERATOR PUMP ADJUSTMENT	4-11
VACUUM CYLINDER	4-3	CARBURETOR INSTALLATION	4-11
PILOT SCREW	4-5	PILOT SCREW ADJUSTMENT	4-12
FLOAT AND JETS	4-5	LIMITER CAP INSTALLATION	4-12
AIR CUT-OFF VALVE	4-6	HIGH ALTITUDE ADJUSTMENT	4-13
ACCELERATOR PUMP	4-7	FUEL TANK	4-13
FLOAT LEVEL	4-8	AIR CLEANER	4-14
CARBURETOR SEPARATION	4-8		

SERVICE INFORMATION

GENERAL

- Use caution when working with gasoline. Always work in a well-ventilated area and away from sparks or open flames.
- When disassembling fuel system parts, note the locations of the O-rings. Replace them with new ones on reassembly.
- The float bowls have drain plugs that can be loosened to drain residual gasoline.

SPECIFICATIONS

	CM450C	CM450A	CM450E	CB450T
Venturi dia.	30 mm (1.2 in)	28 mm (1.1 in)	30 mm (1.2 in)	←
Identification No.	VB22G	VB24E	VB22J	VB22L
Float level	15.5 mm (0.61 in)	←	←	←
Main jet	Pri.: 72 2nd.: 115	Pri.: 75 2nd.: 108	Pri.: 72 2nd.: 115	Pri.: 70 2nd.: 108
Idle speed	1,200 ± 100 rpm	1,250 ± 100 rpm	1,200 ± 100 rpm	←
Throttle grip free play	2-6 mm (1/8-1/4 in)	←	←	←
Fast idle	2,500 ± 500 rpm	2,000 ± 500 rpm	2,500 ± 500 rpm	←
Pilot screw initial opening	See page 4-12			

TOOLS

COMMON

Float gauge 07401-0010000



TROUBLESHOOTING

Engine cranks but won't start

1. No fuel in tank
2. No fuel to carburetor
3. Engine flooded with fuel
4. No spark at plug (ignition malfunction)
5. Air cleaner clogged
6. Intake air leak
7. Improper choke operation
8. Improper throttle operation

Hard starting or stalling after starting

1. Improper choke operation
2. Ignition malfunction
3. Fast idle speed incorrect
4. Carburetor malfunction
5. Fuel contaminated
6. Intake air leak
7. Idle speed incorrect

Rough idle

1. Ignition malfunction
2. Idle speed incorrect
3. Incorrect carburetor synchronization
4. Carburetor malfunction
5. Fuel contaminated

Misfiring during acceleration

1. Ignition malfunction
2. Faulty air cut-off valve

Backfiring

1. Ignition malfunction
2. Carburetor malfunction
3. Faulty air cut-off valve

Poor performance (driveability) and poor fuel economy

1. Fuel system clogged
2. Ignition malfunction
3. Dirty air cleaner

Lean mixture

1. Clogged fuel jets
2. Vacuum piston sticking
3. Faulty float valve
4. Float level low
5. Fuel cap vent blocked
6. Fuel strainer screen clogged
7. Restricted fuel line
8. Air vent tube clogged
9. Intake air leak

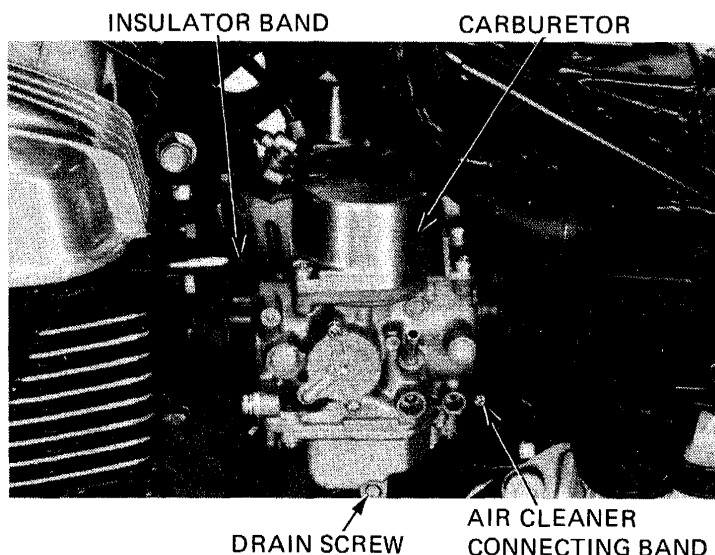
Rich mixture

1. Clogged air jets
2. Faulty float valve
3. Float valve too high
4. Choke stuck closed
5. Air cut-off valve sticking closed
6. Dirty air cleaner

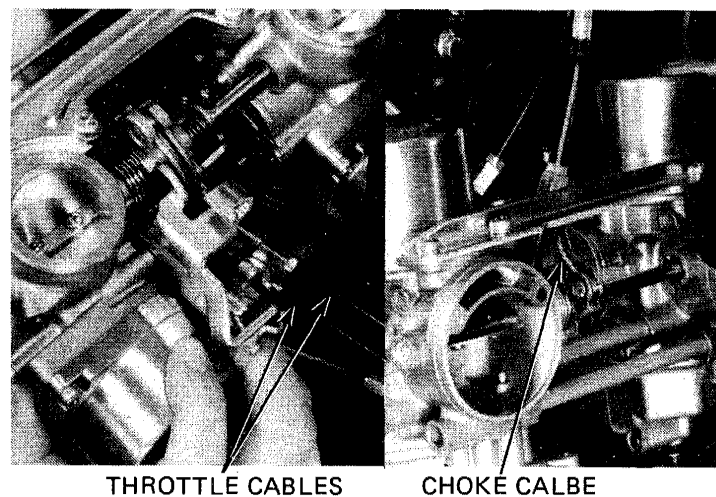


CARBURETOR REMOVAL

- Remove the left and right frame side covers.
- Remove the seat.
- Turn the fuel valve "OFF" and disconnect the fuel line.
- Remove the fuel tank.
- Loosen the air cleaner connecting bands.
- Loosen the carburetor insulator bands.
- Drain residual fuel into a suitable container by loosening each drain screw.

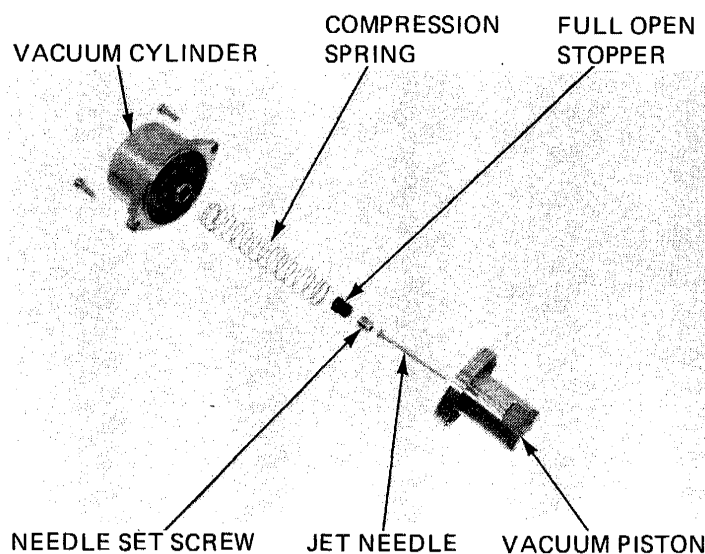


- Remove the carburetor assembly.
- Disconnect the throttle and choke cables.



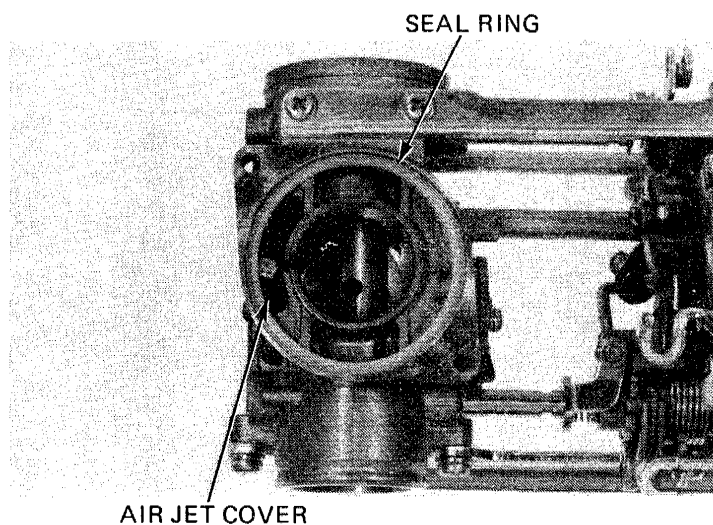
VACUUM CYLINDER

- Remove the vacuum cylinders from the carburetor bodies.
- Carefully lift the vacuum piston out with the needle and compression spring.
- Inspect the vacuum piston and cylinder for wear, nicks, scratches or other damage. Make sure that the piston and jet needle move up and down freely in the cylinder.
- Remove the full open stopper
- Remove the needle set screw.
- Separate the jet needle from the piston.
- Inspect the needle and seat for deposits, bending, grooves, or other damage.

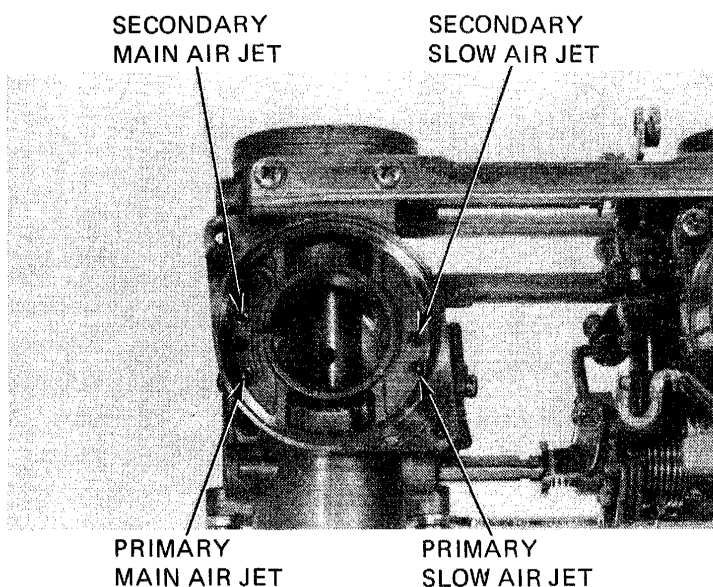


FUEL SYSTEM

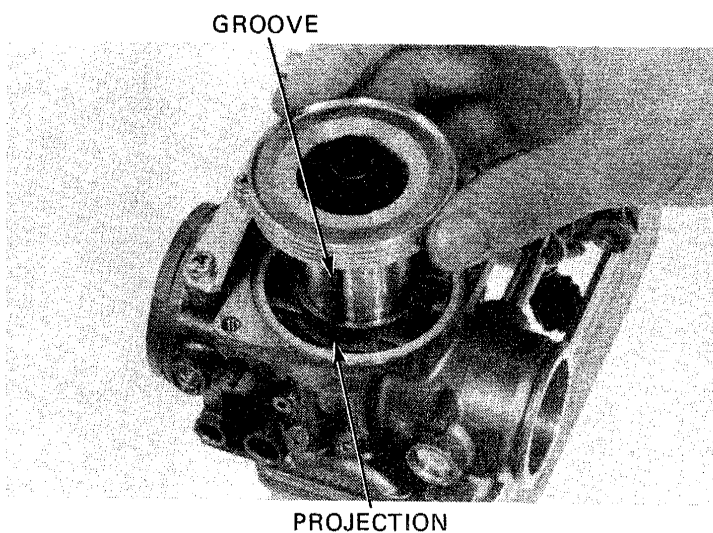
Carefully lift the seal ring off the carburetor body.
 Remove the air jet cover.



Blow open the primary main air jet, secondary main air jet and slow air jet with compressed air.



Assemble the vacuum cylinder; Align the groove in the vacuum piston with the projection on the air jet cover to install the piston.





PILOT SCREW

REMOVAL

NOTE

The pilot screws are factory pre-set and should not be removed unless the carburetor is overhauled.

Remove the float chamber (USA only).

Turn the pilot screw in and carefully count the number of turns before it lightly seats.

Make a note of this to use as a reference when reinstalling the pilot screw.

CAUTION:

Damage to the pilot screw seat will occur if the pilot screw is tightened against the seat.

Remove the pilot screw.

Inspect the pilot screw and replace if worn or damaged.

INSTALLATION

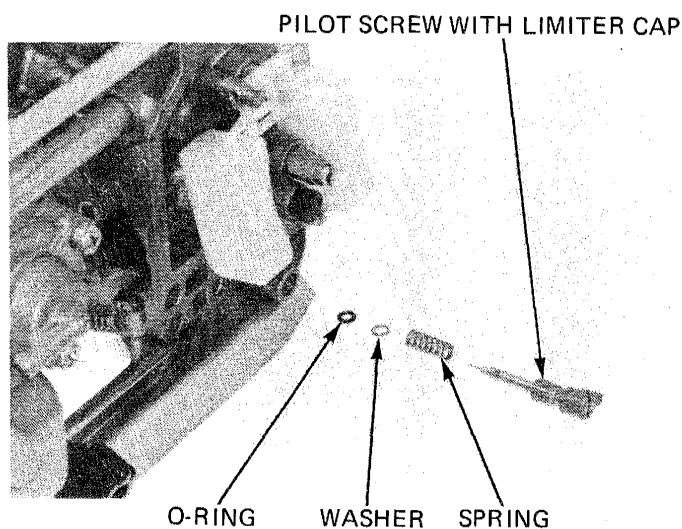
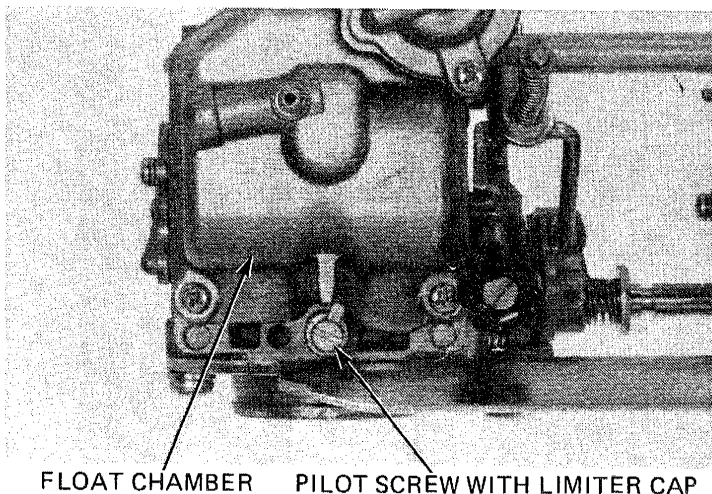
Install the pilot screw and return it to its original position as noted during removal.

Install the float chamber (USA only).

Perform pilot screw adjustment if a new pilot screw is installed (page 4-12).

NOTE

Do not install limiter caps on new pilot screws until after adjustment has been made.



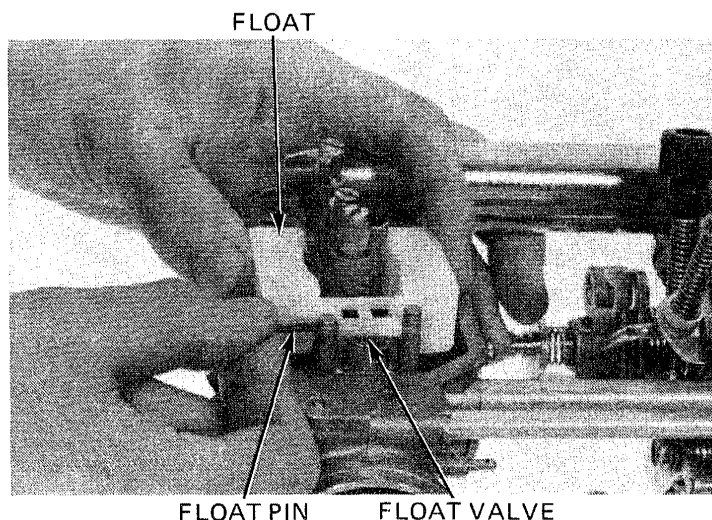
FLOAT AND JETS

Remove the float chamber.

Press out and remove the float arm pin.

Remove the float and float valve.

Check the float valve operation.





FUEL SYSTEM

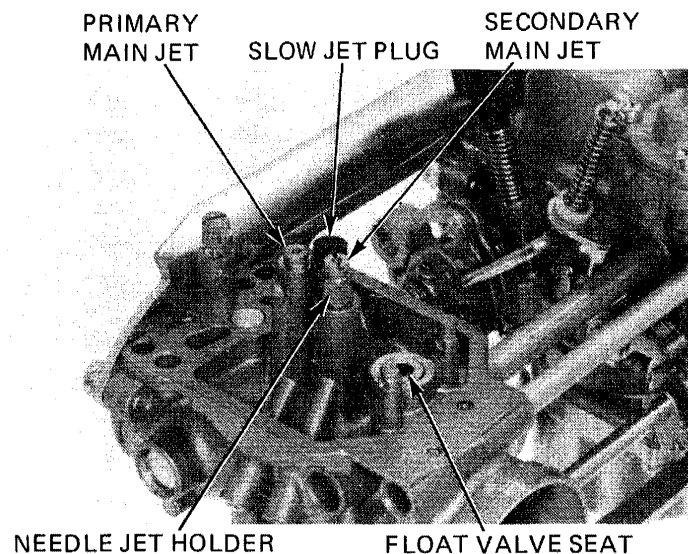
Inspect the float valve and seat for grooves, nicks or deposits.

Remove the secondary main jet.

Remove the primary main jet.

Remove the slow jet plug.

Remove the needle jet holder.



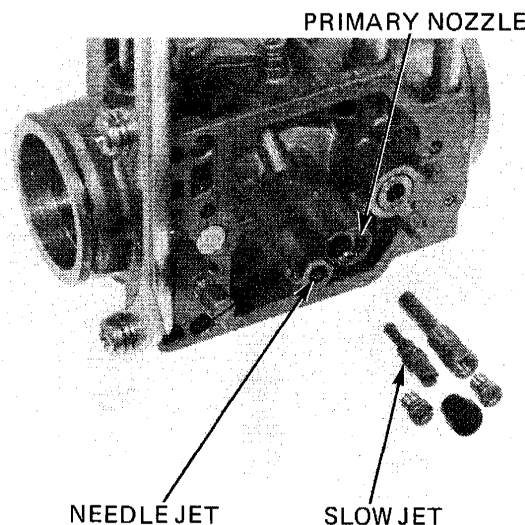
Remove the slow jet.

Blow all jets and body passages with compressed air.

Reassemble by reversing the disassembly steps.

NOTE

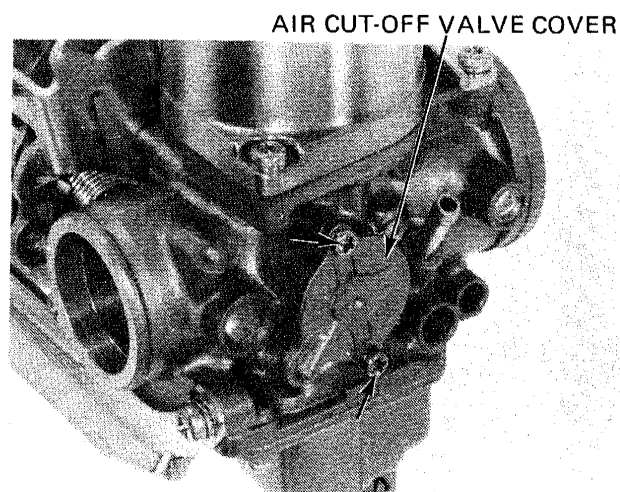
Install the float valve with the float.



AIR CUT-OFF VALVE

Remove the air cut-off valve cover and spring.

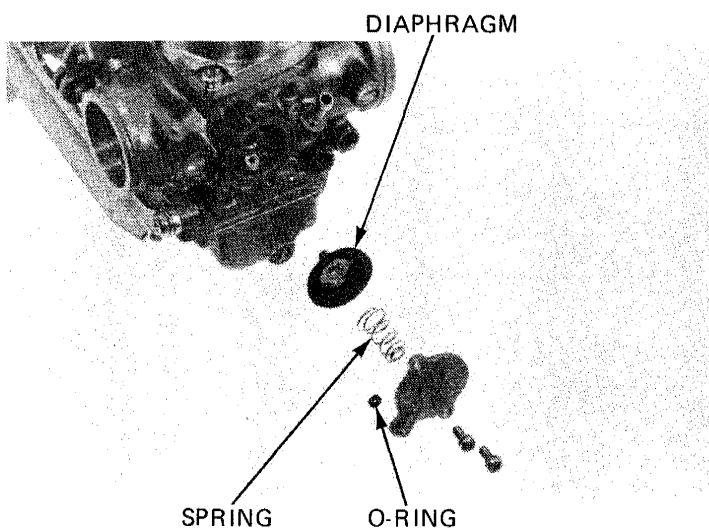
Remove the diaphragm and O-ring.





Inspect the diaphragm and valve for cracks and brittleness.

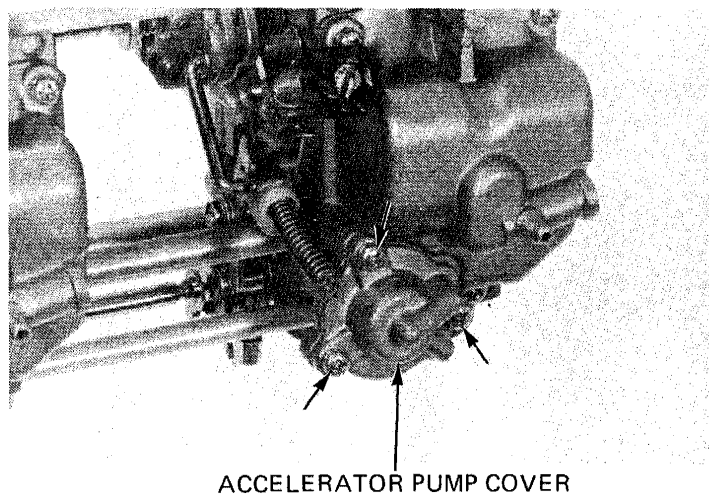
Assemble the air cut-off valve.



ACCELERATOR PUMP

Remove the accelerator pump cover and spring.

Remove the diaphragm.

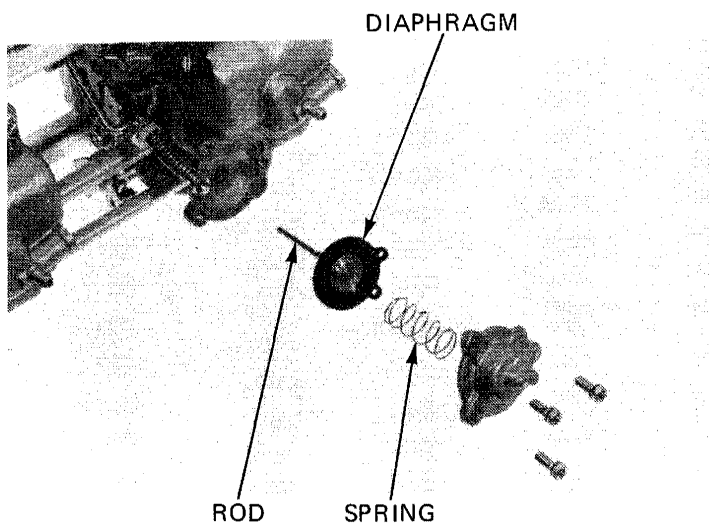


Inspect the diaphragm for cracks and brittleness.

NOTE

Be sure the rod is not bent.

Assemble the accelerator pump.



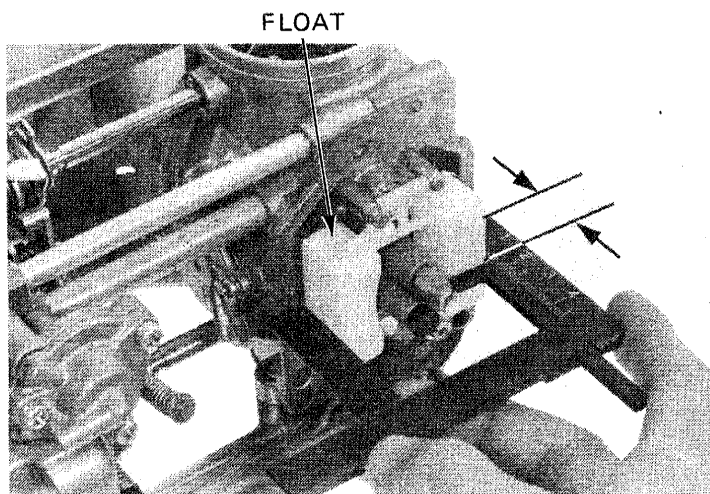
FLOAT LEVEL

Remove the float chamber.

Measure the float level with the float tip just contacting the float valve.

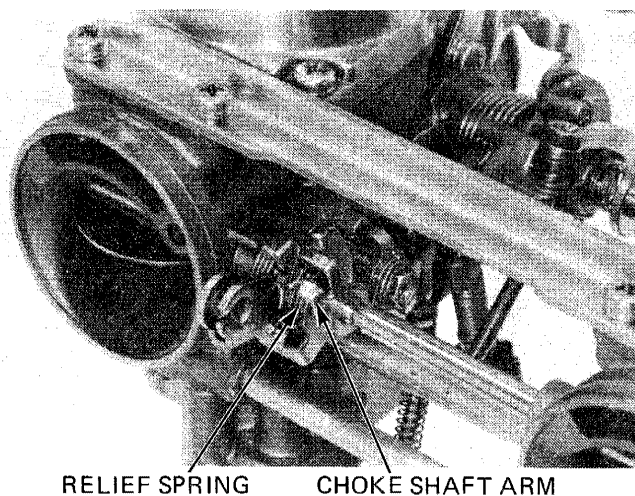
FLOAT LEVEL: 15.5 mm (0.61 in)

Replace the float, if the float level is not within the specification.



CARBURETOR SEPARATION

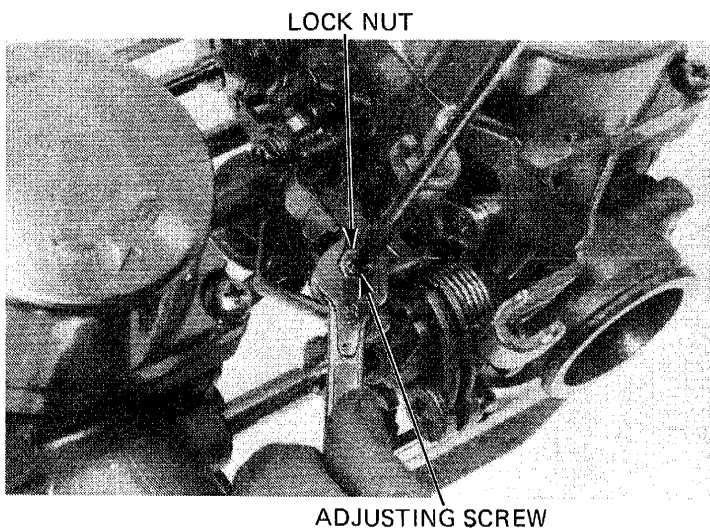
Unhook the choke relief spring from the choke shaft arm of the right carburetor.



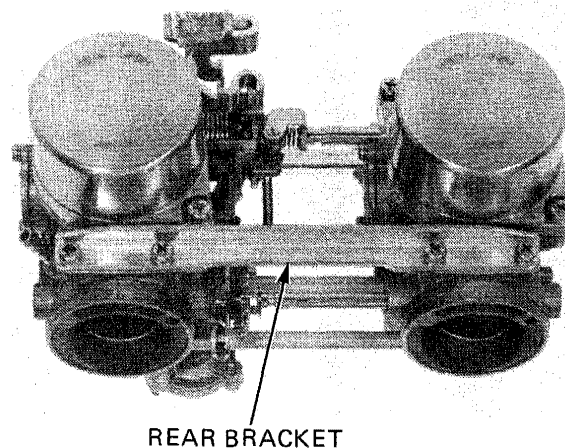
Loosen the synchronization adjusting screw lock nut and adjusting screw until there is no tension.

NOTE

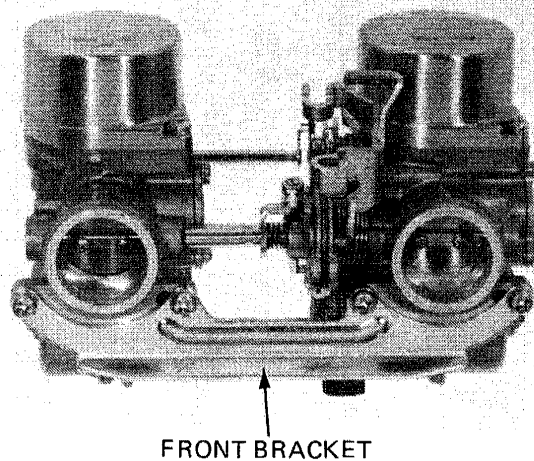
Turn the synchronization screw in until it seats and note the number of turns for reference during assembly.



Remove the rear bracket.



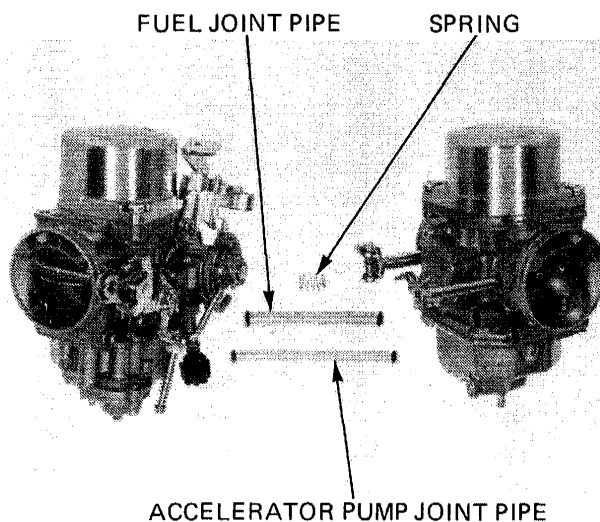
Remove the front bracket.



Carefully separate the carburetors.

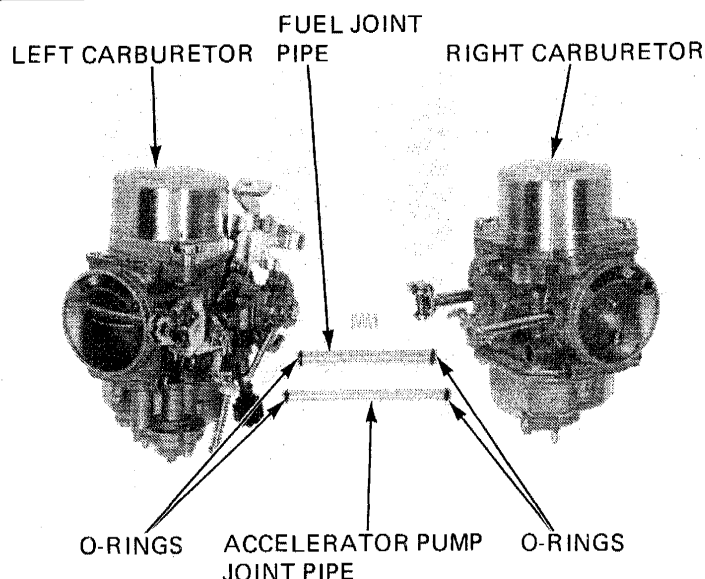
CAUTION:

Separate the carburetors horizontally to prevent damage to the joint pipes and choke linkage.



**FUEL SYSTEM****CARBURETOR ASSEMBLY**

Apply a thin coat of oil to new O-rings and put them on each end of the accelerator pump and fuel joint pipes.

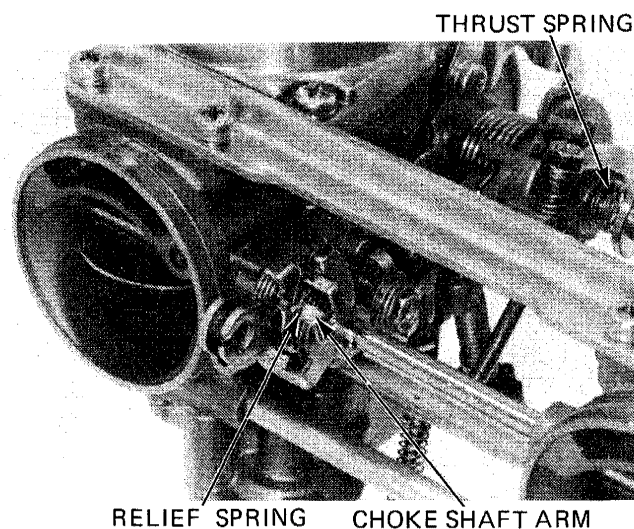


Assemble the right and left carburetors noting the thrust spring position.

Install the front and rear brackets.

Turn the synchronization adjusting screw to its original position as noted during disassembly.

Hook the choke relief spring to the choke shaft arm of the right carburetor.

**FAST IDLE ADJUSTMENT****FAST IDLE:**

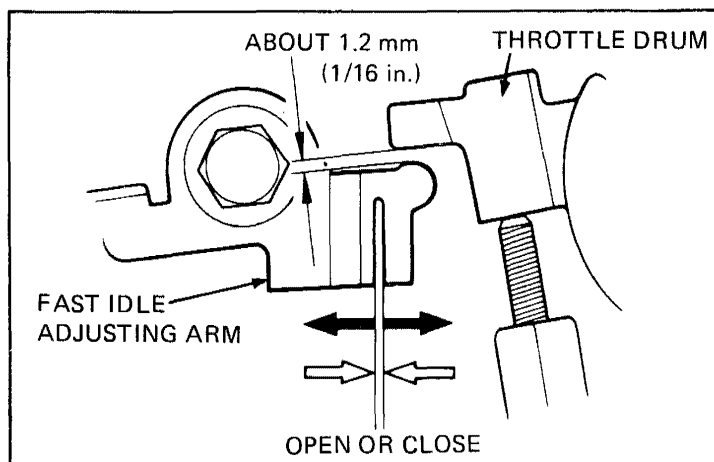
CB450T, CM450C/E: 2,500 ± 500 rpm
CM450A: 2,000 ± 500 rpm

Close the throttle valve and open the choke valve.

Measure the clearance between the throttle drum and fast idle adjusting arm.

CLEARANCE: 1.2 mm (1/16 in)

Adjust by opening and closing the fork end of the fast idle adjusting arm.



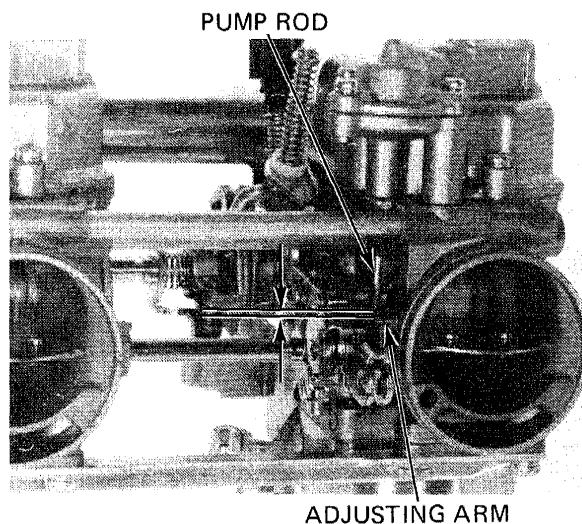
ACCELERATOR PUMP ADJUSTMENT

Loosen the throttle stop screw until the throttle valve is closed.

Measure the clearance between the accelerator pump rod and adjusting arm with the throttle valve closed.

CLEARANCE: 0.01–0.04 mm (0.0004–0.002 in)

Adjust by bending the adjusting arm.



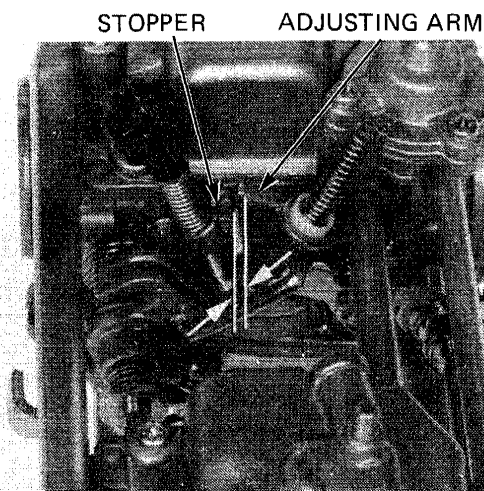
Measure the clearance between the adjusting arm and stopper on the carburetor body.

CLEARANCE:

CB450T, CM450C/E: 7.0 mm (1/4 in)

CM450A: 8.9 mm (3/8 in)

Adjust by bending the adjusting arm.



CARBURETOR INSTALLATION

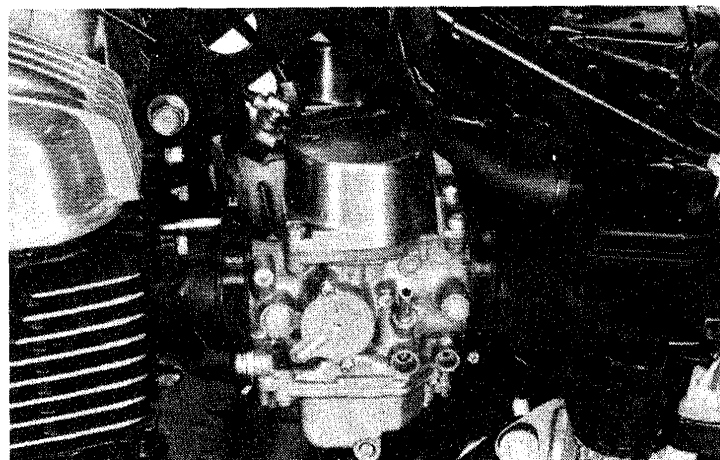
The installation sequence is essentially the reverse of removal.

NOTE

Route the throttle and choke cables properly (page 1-11 to 1-22).

Perform the following inspections and adjustments.

- Throttle operation (page 3-8)
- Carburetor choke (page 3-8)
- Carburetor idle speed (page 3-16)





PILOT SCREW ADJUSTMENT

IDLE DROP PROCEDURE

NOTE

- The pilot screws are factory pre-set and no adjustment is necessary unless the pilot screw is replaced (See removal).
- Use a tachometer with graduation of 100 rpm or smaller that will accurately indicate a 100 rpm change.

1. Turn each pilot screw clockwise until it seats lightly and back it out to the specification given. This is an initial setting prior to the final pilot screw adjustment.

INITIAL OPENING:

CB450T, CM450C/E: 2-1/4 turns out
CM450A: 2-3/4 turns out

CAUTION:

Damage to the pilot screw seat will occur if the pilot screw is tightened against the seat.

2. Warm up the engine to operating temperature. Stop and go driving for 10 minutes is sufficient.
3. Attach a tachometer.
4. Adjust the idle speed with the throttle stop screw.

IDLE SPEED:

CB450T, CM450C/E: 1,200 ± 100 rpm
CM450A: 1,250 ± 100 rpm

5. Turn each pilot screw in or out to obtain the highest engine speed.
6. Readjust the idle speed.
7. Turn one of the pilot screws in gradually until the engine speed is lowered by 100 rpm.
8. Turn the pilot screw 3/8 turn out from the above position.
9. Readjust the idle speed with the throttle stop screw.
10. Repeat steps 7 through 9 for the other carburetor.

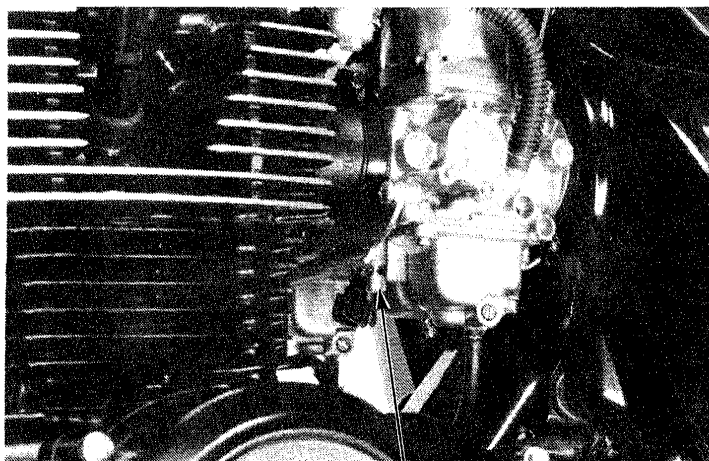
LIMITER CAP INSTALLATION

If the pilot screw is replaced, a new limiter cap must be installed after pilot screw adjustment is completed.

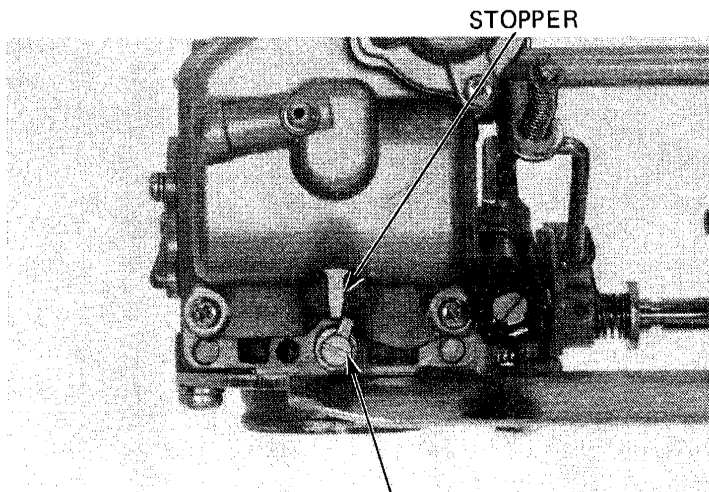
After adjustment, cement the limiter cap over the pilot screw, using LOCTITE® 601 or equivalent. The limiter cap should be placed against its stop, preventing further adjustment that would enrich the fuel mixture (limiter cap position permits clockwise rotation and prevents counterclockwise rotation).

NOTE

Do not turn the pilot screw when installing the limiter cap.



PILOT SCREW



STOPPER

LIMITER CAP

HIGH ALTITUDE ADJUSTMENT

(U.S.A. only)

When the vehicle is to be operated continuously above 6,500 feet (2,000 meters) the carburetors must be readjusted as described below, to improve driveability and decrease exhaust emission.

Remove the carburetors.

Adjust the clearance between the accelerator pump adjusting arm and stopper to 4 mm (1/8 in).

Install the carburetors.

Warm up the engine to operating temperature. Stop and go driving for 10 minutes is sufficient.

Turn each pilot screw clockwise 1/2 turn.

Adjust the idle speed with the throttle stop screw.

CB450T, CM450E/C: 1,200 ± 100 rpm

CM450A: 1,250 ± 100 rpm

NOTE

These adjustments must be made at high altitude to ensure proper high altitude operation.

Attach Vehicle Emission Control Information Update label as shown.

NOTE

- Instructions for obtaining Vehicle Emission Control Update label are given in service News letter No. 132.
- Do not attach the label to any part that can be easily removed from the vehicle.

CAUTION:

Operation at an altitude lower than 5,000 feet (1,500 meters) with the carburetors adjusted for high altitudes may cause the engine to idle roughly and stall.

When the vehicle is to be operated continuously below 5,000 feet (1,500 meters);

Adjust the clearance between the accelerator pump adjusting arm and stopper.

CB450T, CM450E/C: 7mm (1/4 in)

CM450A: 8.9mm (3/8 in)

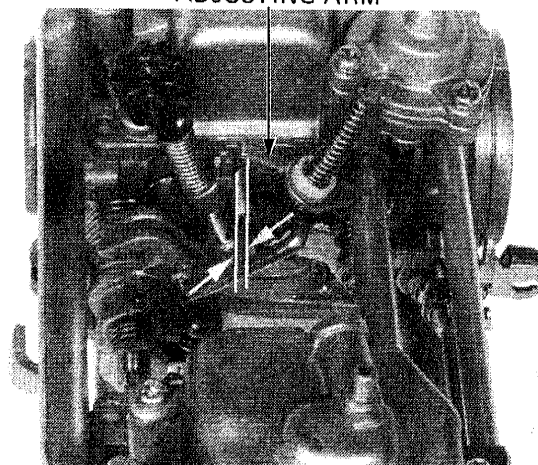
Turn each pilot screw counterclockwise to its original position against its stop and adjust the idle speed with the throttle stop screw.

CB450T, CM450E/C: 1,200 ± 100 rpm

CM450A: 1,250 ± 100 rpm

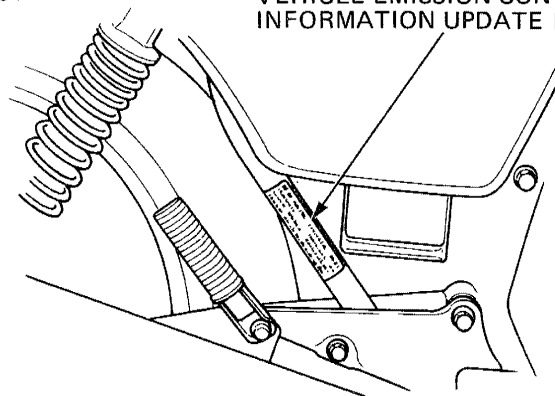
Be sure to do these adjustments at low altitude.

ADJUSTING ARM



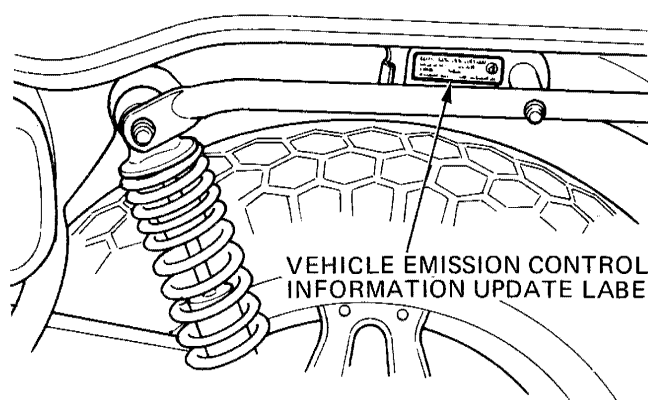
CB450T

VEHICLE EMISSION CONTROL
INFORMATION UPDATE LABEL



CM450E/C/A

VEHICLE EMISSION CONTROL
INFORMATION UPDATE LABEL





FUEL TANK

WARNING

*Do not allow flames or sparks near gasoline.
Wipe up spilled gasoline at once.*

Check the vent hole of the filler cap for blockage.

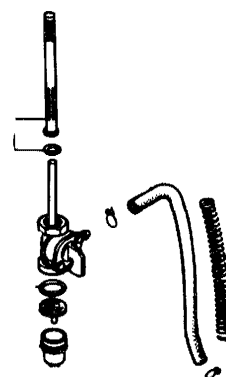
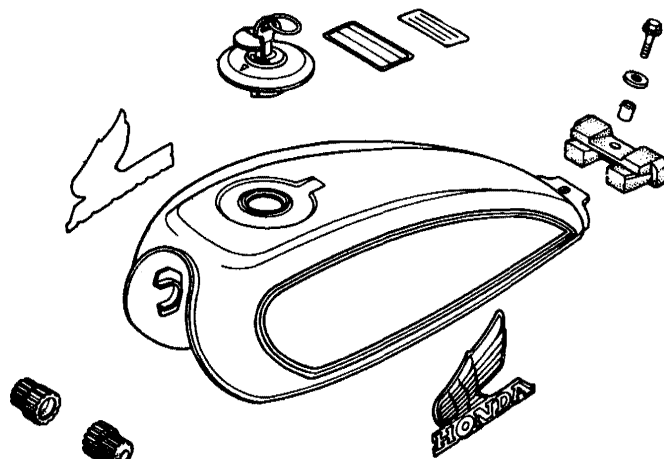
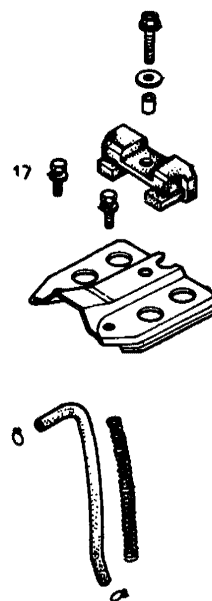
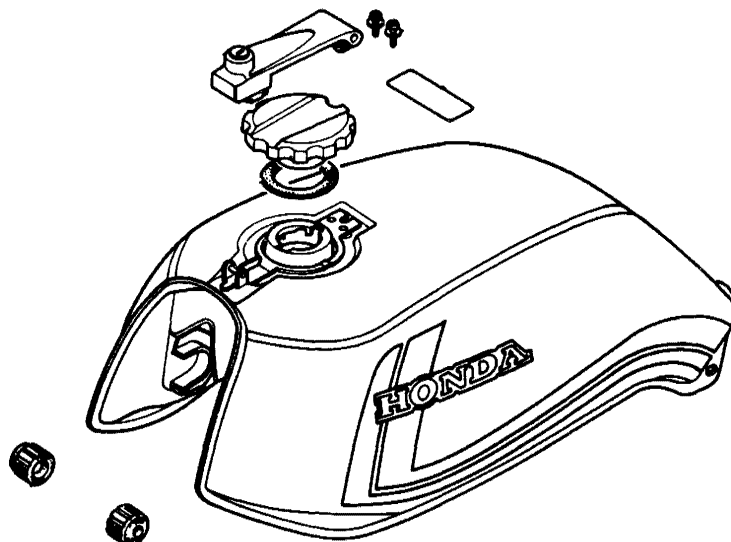
Check that fuel is flowing out of the fuel valve freely.

If fuel flow is restricted, clean the fuel strainer.

NOTE

Do not overtighten the fuel valve lock nut.

Make sure there are no fuel leaks.

CM450C/E/A**CB450T**



AIR CLEANER

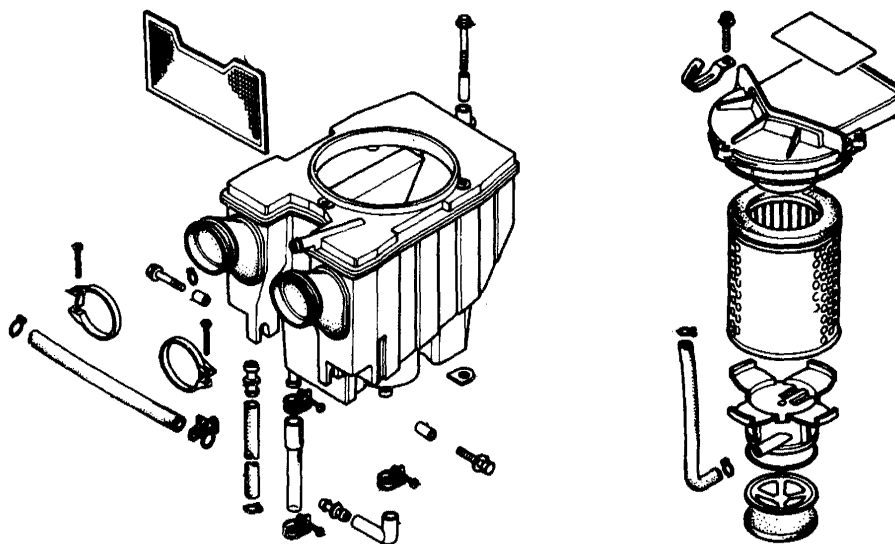
CASE/CHAMBER

Check the air cleaner case for holes, mismatched and distorted sealing surfaces, and other damage or deterioration.

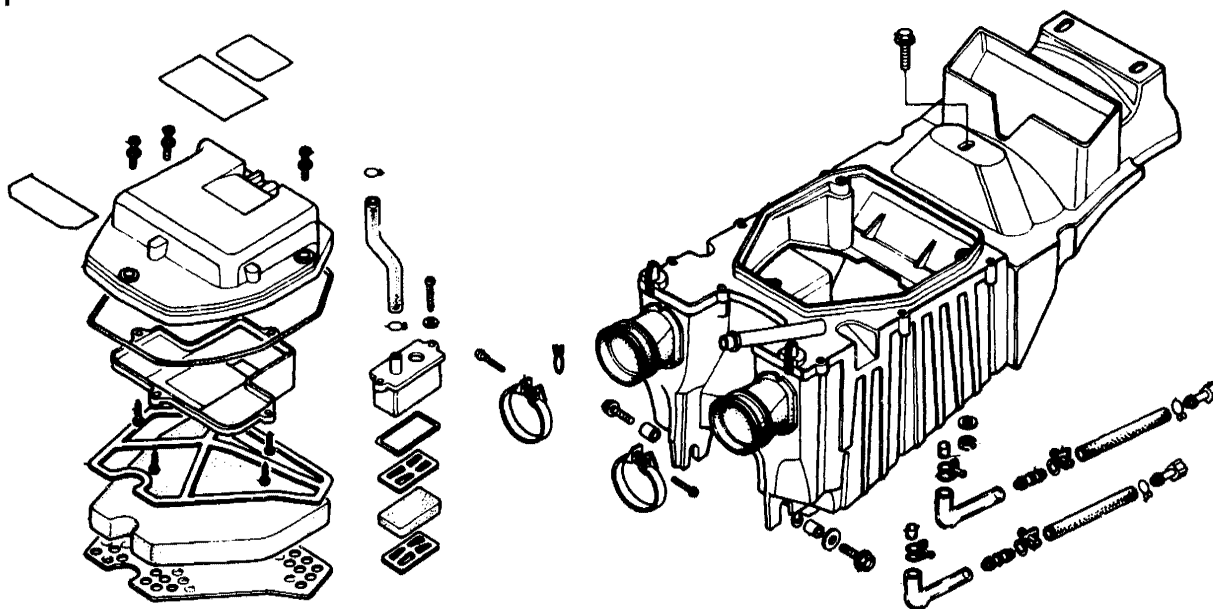
CRANKCASE VENTILATION SYSTEM

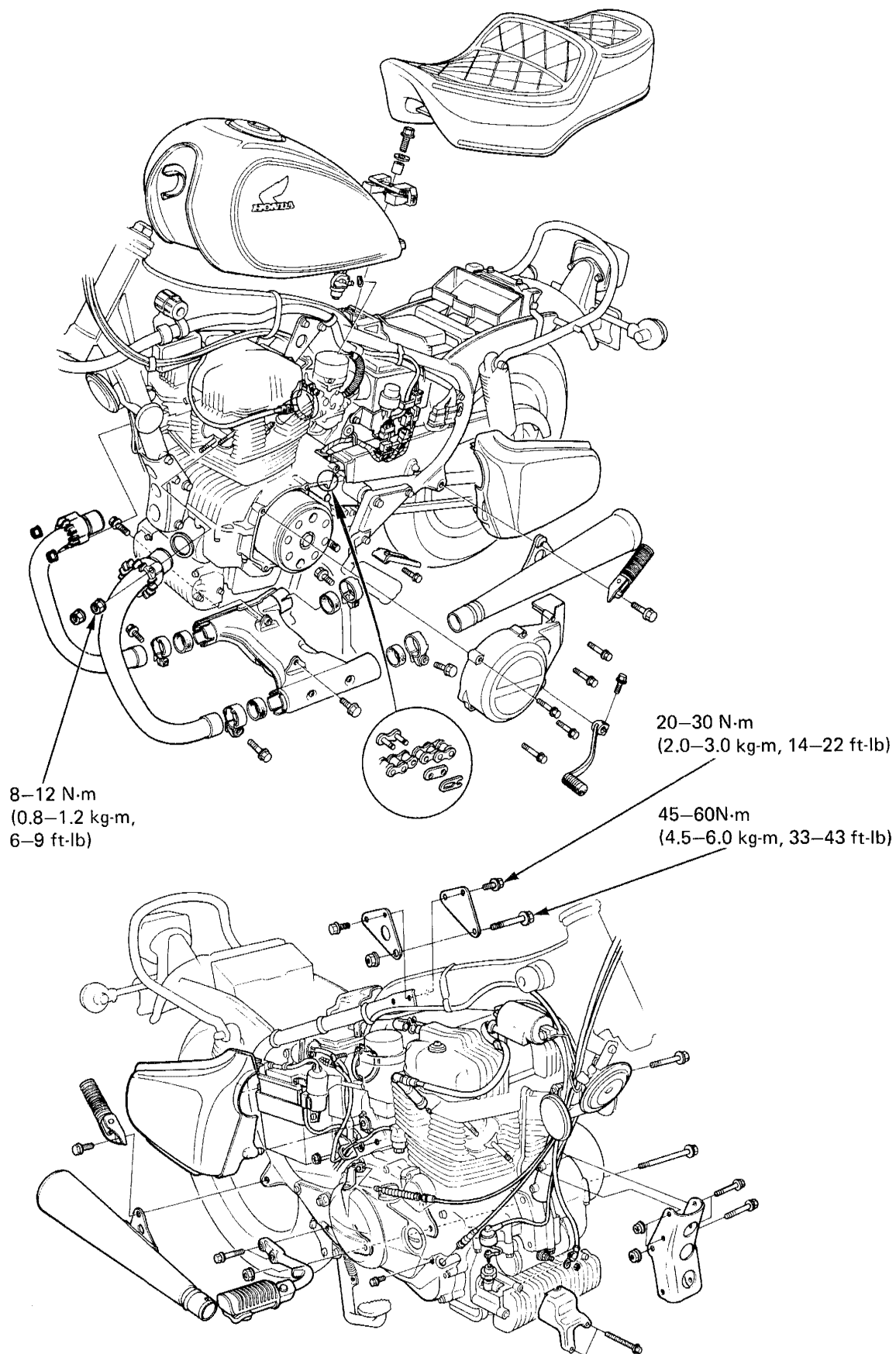
Check that the breather tube is not restricted.

CM450C/E/A



CB450T







SERVICE INFORMATION	5-1
ENGINE REMOVAL	5-2
ENGINE INSTALLATION	5-5

SERVICE INFORMATION

5

GENERAL

- A jack or adjustable support is required to maneuver the engine.
- Parts requiring engine removal for servicing:
 - Crankcase Section 12
 - Crankshaft/Balancer Section 13
 - Transmission Section 14

SPECIFICATIONS

Engine weight	CB450T, CM450C/E:	59.0 kg (130 lb)
	CM450A:	63.0 kg (139 lb)
OIL capacity	CB450T, CM450C/E:	
	3.0ℓ (3.2 US qt, 2.6 Imp qt) after assembly	
	2.5ℓ (2.6 US qt, 2.2 Imp qt) after draining	
	CM450A	
	3.3ℓ (3.5 US qt, 2.9 Imp qt) after assembly	
	2.5ℓ (2.6 US qt, 2.2 Imp qt) after draining	

TORQUE VALUES

Engine hanger bolts:	
8mm bolt	18-25 N·m (1.8-2.5 kg-m, 13-18 ft-lb)
8 mm flange bolt	20-30 N·m (2.0-3.0 kg-m, 14-22 ft-lb)
10 mm flange bolt	45-60 N·m (4.5-6.0 kg-m, 33-43 ft-lb)
Exhaust pipe flange nut	8-12 N·m (0.8-1.2 kg-m, 6-9 ft-lb)



ENGINE REMOVAL

Place the motorcycle on its center stand for a support block.

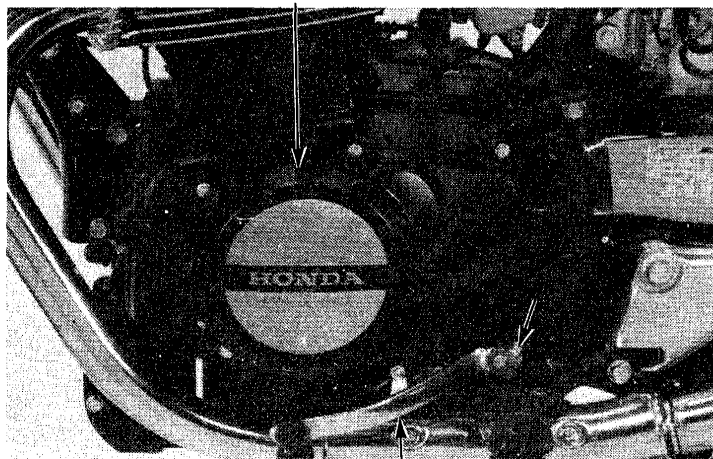
Drain the engine oil.

Remove the seat and fuel tank.

Remove the left and right side covers.

Remove the gearshift pedal and left crankcase cover.

LEFT CRANKCASE COVER



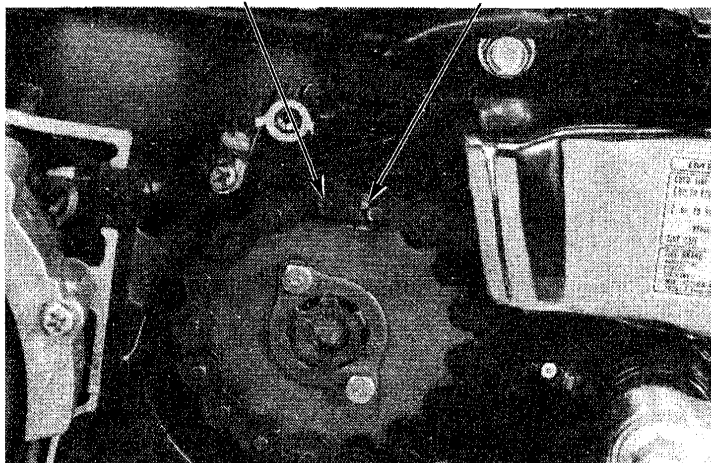
GEARSHIFT PEDAL

Remove the master link retaining clip and master link.

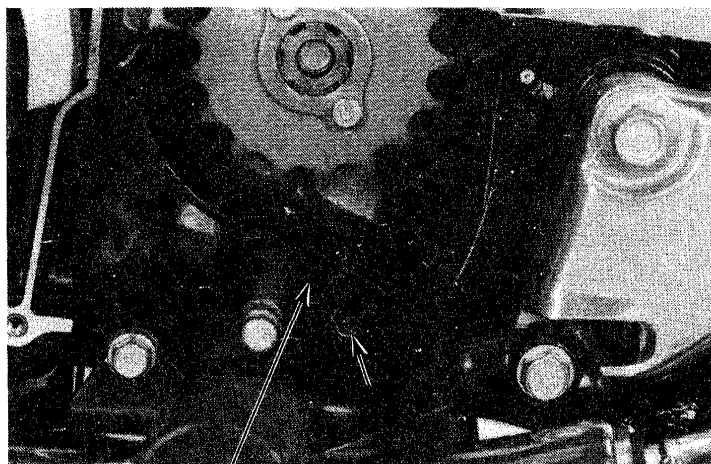
Remove the drive chain.

MASTER LINK

RETAINING CLIP



Remove the chain protector.

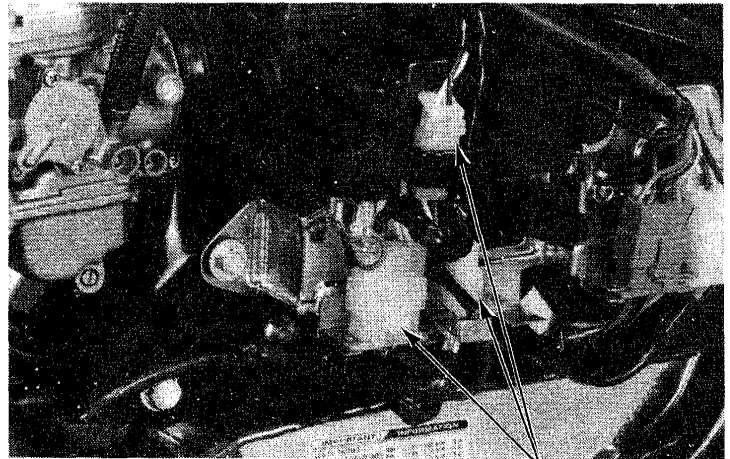


CHAIN PROTECTOR



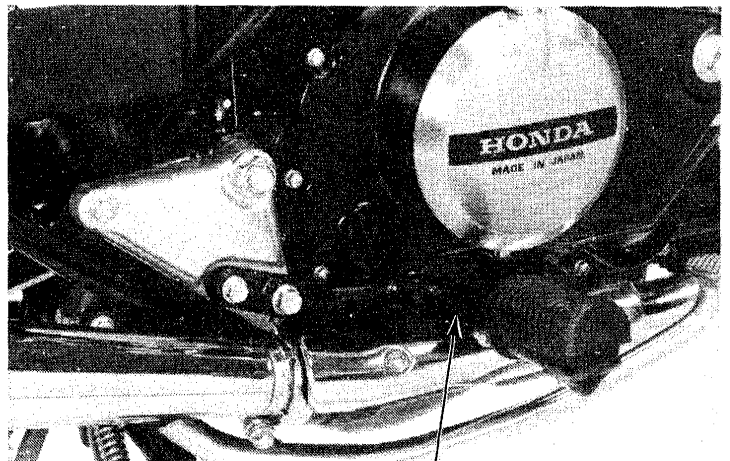
Disconnect the AC generator couplers.

CM450A: Disconnect the change switch coupler from the change relay.



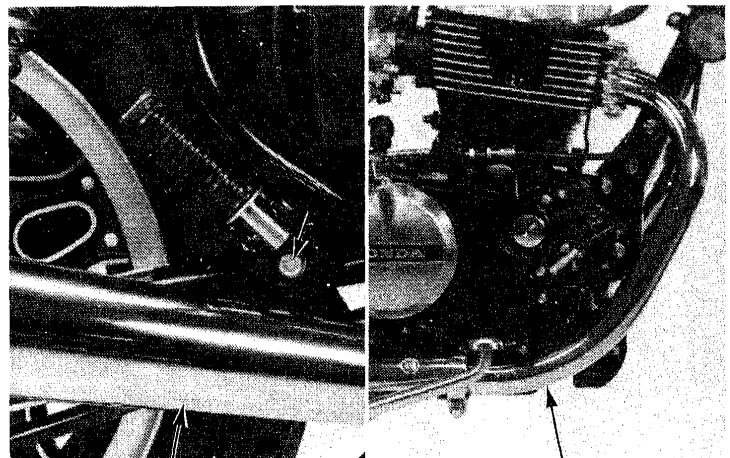
AC GENERATOR
COUPLERS

Remove the right foot peg.



RIGHT FOOT PEG

Remove the mufflers and exhaust pipes.

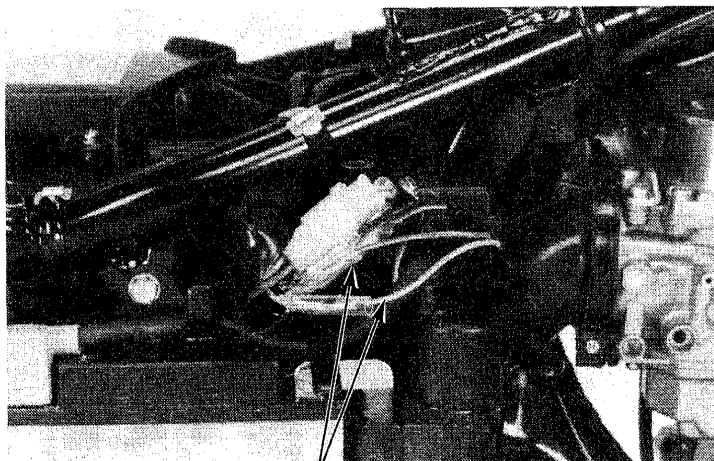


MUFFLER

EXHAUST PIPE

CM450C/E: Disconnect the neutral/OD switch wire connectors.

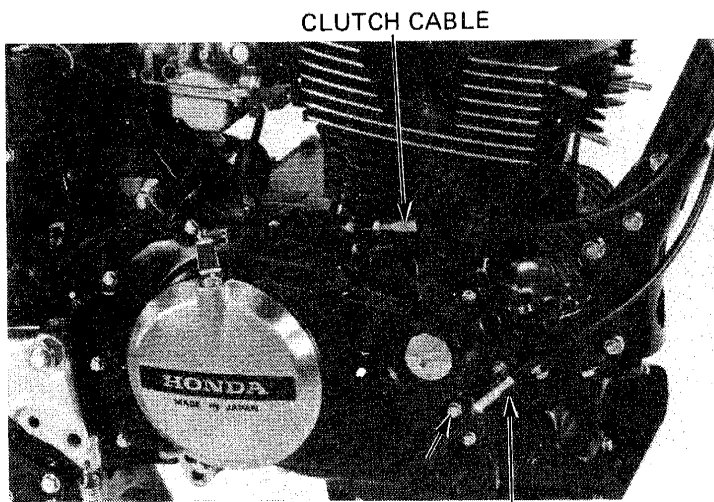
CB450T: Disconnect the neutral switch wire connector.



NEUTRAL/OD SWITCH WIRE
CONNECTORS

CB450T, CM450C/E: Disconnect the clutch cable.

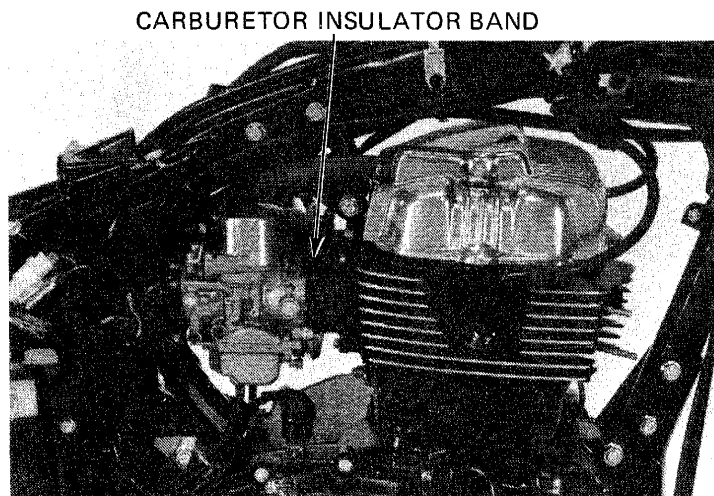
CM450T, CM450C: Disconnect the tachometer cable.



CLUTCH CABLE

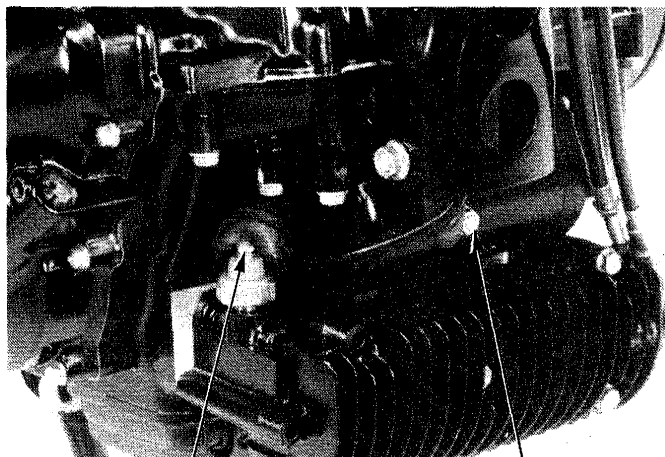
TACHOMETER CABLE

Loosen the carburetor insulator bands.



CARBURETOR INSULATOR BAND

Disconnect the starter cable and oil pressure switch wire.



OIL PRESSURE SWITCH
WIRE

STARTER CABLE

Place a jack or padded block under the engine.

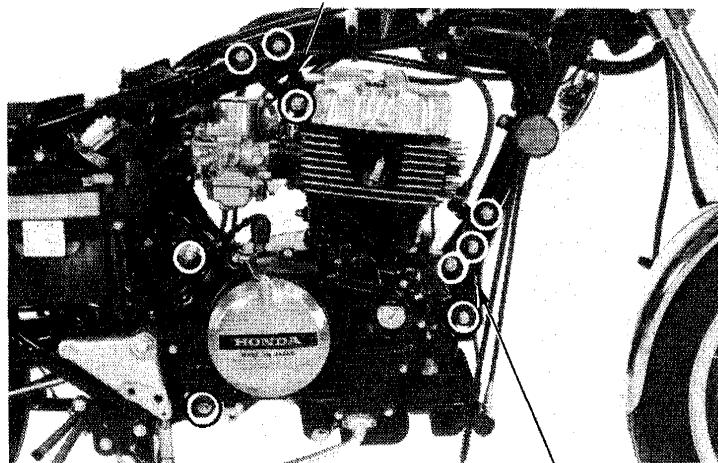
Remove the upper engine hanger plates.

Remove the front engine hanger bracket.

Remove the rear engine hanger bolts.

Lower the jack and remove the engine.

UPPER ENGINE HANGER PLATE



FRONT ENGINE HANGER
BRACKET

8 mm FLANGE BOLTS
20–30N·m (2.0–3.0 kg·m, 14–22 ft·lb)

ENGINE INSTALLATION

Install the engine in the reverse order of removal, noting the following:

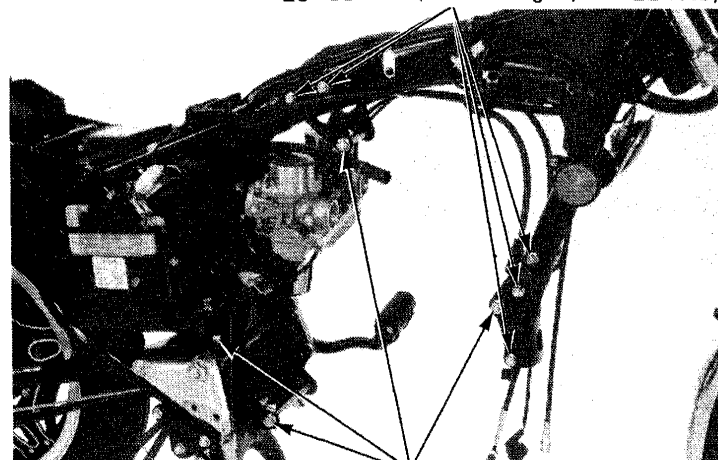
Tighten all bolts to the specified torque.

Route all wire harnesses and cables properly (pages 1–11 through 1–22).

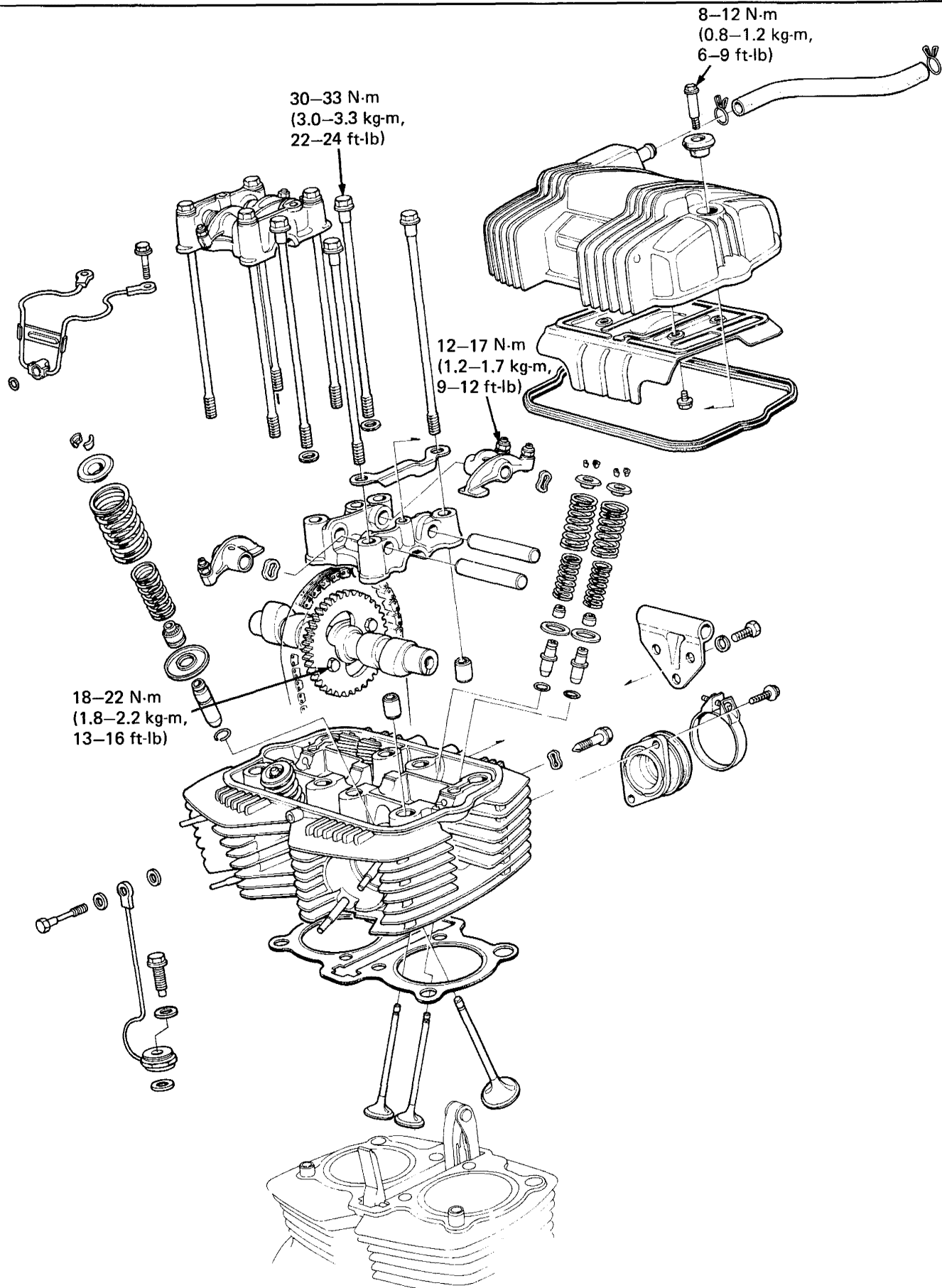
Fill the crankcase to the proper level with the recommended oil (page 2–3).

Perform the following inspections and adjustments:

- Drive chain (page 3–17)
- Clutch (page 3–24)



10 mm FLANGE BOLTS
45–60 N·m (4.5–6.0 kg·m, 33–43 ft·lb)



SERVICE INFORMATION	6-1
TROUBLESHOOTING	6-1
ROCKER ARM/CAMSHAFT REMOVAL	6-3
CYLINDER HEAD REMOVAL	6-8
CYLINDER HEAD DISASSEMBLY	6-9
VALVE GUIDE REPLACEMENT	6-11
VALVE SEAT INSPECTION AND GRINDING	6-12
CYLINDER HEAD ASSEMBLY	6-13
CYLINDER HEAD INSTALLATION	6-14
ROCKER ARM ASSEMBLY	6-15
CAMSHAFT AND ROCKER ARM INSTALLATION	6-16

SERVICE INFORMATION

GENERAL

- This section covers maintenance of the cylinder head, valves, camshaft and rocker arms.
- All cylinder head services can be accomplished with the engine installed in the frame.
- Camshaft lubricating oil is fed through oil lines. Be sure that the holes in the oil lines are not clogged.
- Before assembly, apply molybdenum disulfide grease to the camshaft bearings to provide initial lubrication.
- Pour clean engine oil into the oil pockets in the cylinder head to lubricate the cam.

SPECIFICATIONS

			STANDARD	SERVICE LIMIT
Compression (cold)			1,270 ± 98 kPa (13 ± 1 kg/cm ² , 185 ± 14 psi)	
Camshaft	Cam height	IN	37.008–37.208 mm (1.457–1.465 in)	36.9 mm (1.45 in)
		EX	37.040–37.240 mm (1.458–1.466 in)	36.9 mm (1.45 in)
	Oil clearance	Ends	0.040–0.141 mm (0.0016–0.0056 in)	0.20 mm (0.008 in)
		Center	0.090–0.191 mm (0.0035–0.0075 in)	0.23 mm (0.009 in)
	Runout		—————	0.10 mm (0.004 in)
Rocker arm shaft	Arm I.D.		12.000–12.018 mm (0.4724–0.4731 in)	12.03 mm (0.474 in)
	Shaft O.D.		11.966–11.984 mm (0.4711–0.4618 in)	11.95 mm (0.470 in)
	Camshaft holder I.D.		11.984–12.016 mm (0.4718–0.4731 in)	12.04 mm (0.474 in)
Valve spring	Free length	IN-OUTER	50.6 mm (1.99 in)	49.0 mm (1.93 in)
		IN-INNER	36.6 mm (1.44 in)	35.5 mm (1.40 in)
		EX-OUTER	51.1 mm (2.01 in)	49.5 mm (1.95 in)
		EX-INNER	40.8 mm (1.61 in)	39.5 mm (1.56 in)
	Preload/length	IN-OUTER	33.0–37.0 kg/29.4 mm (72.8–81.6 lbs/1.16 in)	30 kg/29.4mm (66.2 lbs/1.16 in)
		IN-INNER	19.0–22.0 kg/25.2mm (41.9–46.3 lbs/0.99 in)	17 kg/25.2mm (37.5 lbs/0.99 in)

			STANDARDS	SERVICE LIMIT
Valve spring	Preload/length	EX-OUTER	57.5—64.5 kg/31.8mm (126.8—142.2 lbs/1.25 in)	52 kg/31.8mm (112.5 lbs/1.25 in)
		EX-INNER	33.0—37.0 kg/29.6 mm (72.8—81.6 lbs/1.17 in)	30 kg/29.6 mm (66.2 lbs/1.17 in)
Valve guide	Valve stem O.D.	IN	5.455—5.470 mm (0.2148—0.2154 in)	5.44 mm (0.214 in)
		EX	6.555—6.570 mm (0.2581—0.2587 in)	6.54 mm (0.257 in)
	Valve guide I.D.	IN	5.500—5.510 mm (0.2165—0.2169 in)	5.60 mm (0.220 in)
		EX	6.600—6.615 mm (0.2598—0.2604 in)	6.70 mm (0.264 in)
	Stem-to-guide clearance	IN	_____	0.10 mm (0.004 in)
		EX	_____	0.10 mm (0.004 in)
	Valve seat width		1.1—1.3 mm (0.04—0.05 in)	2.0 mm (0.08 in)
Cylinder head	Warpage		_____	0.10 mm (0.004 in)

TOOLS**SPECIAL**

Valve guide reamer (IN) 07984–2000000
 Valve guide reamer (EX) 07984–6570100/07984–6110000

COMMON

IN Valve guide remover 5.5 mm 07742–0010100
 EX Valve guide remover 6.6 mm 07742–0010200 or 07942–6570100
 Valve guide driver B 07742–0020200
 Valve spring compressor 07757–0010000

TORQUE VALUES

Cylinder head cover bolt 8–12 N·m (0.8–1.2 kg·m, 6–9 ft·lb)
 Cylinder head bolt 30–33 N·m (3.0–3.3 kg·m, 22–24 ft·lb)
 Cam sprocket bolt 18–22 N·m (1.8–2.2 kg·m, 13–16 ft·lb)
 Valve adjusting screw lock nut 12–17 N·m (1.2–1.7 kg·m, 9–12 ft·lb)

TROUBLESHOOTING

Engine top-end problems are usually performance-related and can be diagnosed by a compression test, or are engine noises which can be traced to the top-end with a sounding rod or stethoscope.

Low compression or uneven compression

1. Valve
 - Incorrect adjustment
 - Burned or bent valves
 - Incorrect valve timing
 - Broken valve spring
2. Cylinder head
 - Leaking or damaged head gasket
 - Warped or cracked cylinder head
3. Cylinder and piston (Refer to Section 7)

Compression too high

1. Excessive carbon build-up on piston head or combustion chamber

Excessive noise

1. Incorrect adjustment
2. Sticking valve or broken valve spring
3. Damaged or worn rocker arm or camshaft
4. Loose or worn cam chain.
5. Worn or damaged cam chain tensioner
6. Loose balancer chain
7. Worn cam sprocket teeth



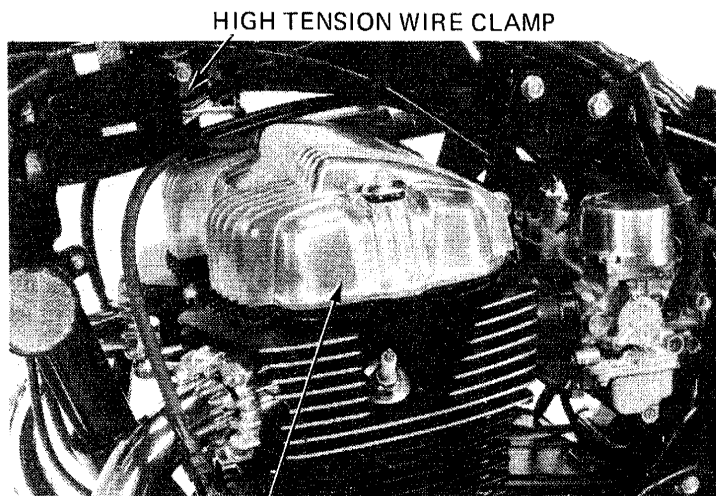
ROCKER ARM/CAMSHAFT REMOVAL

Remove the seat and fuel tank.

Remove the spark plug caps.

Loosen the high tension wire clamps.

Remove the left crankcase cover and cylinder head cover.

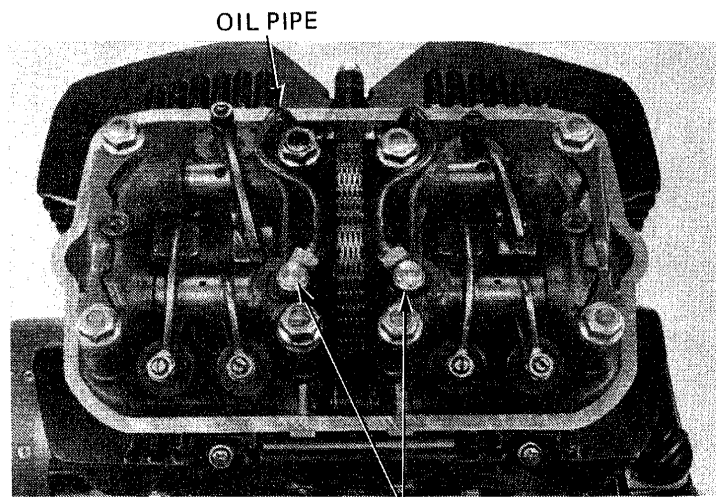


CYLINDER HEAD COVER

Remove the oil pipe.

CAUTION:

When loosening the oil pipe bolt, hold the flat portion of the oil pipe joint with universal wrench or equivalent to prevent the joint from turning together.



OIL PIPE BOLTS

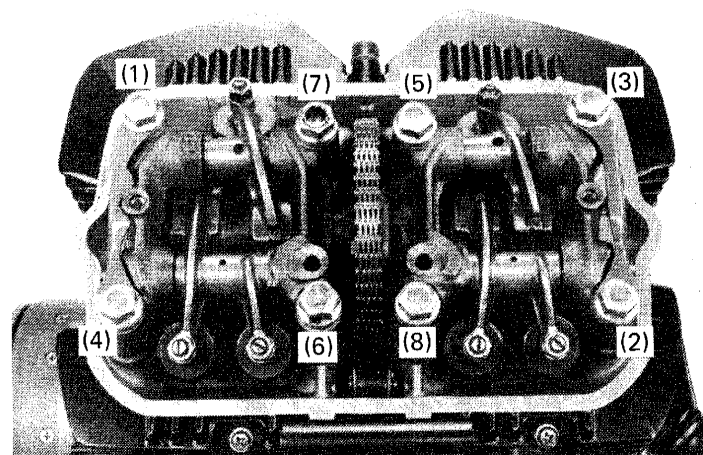
Loosen the cylinder head bolts.

CAUTION:

- Perform this operation while the engine is cold to prevent warpage due to heat.
- Loosen the cylinder head bolts in the sequence shown in 2-3 steps.

Remove the cylinder head bolts.

Remove the camshaft holders.



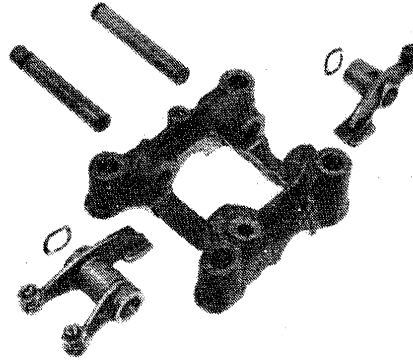


CYLINDER HEAD/VALVE

Remove the wave washers and rocker arms by pulling out the rocker arm shafts.

NOTE

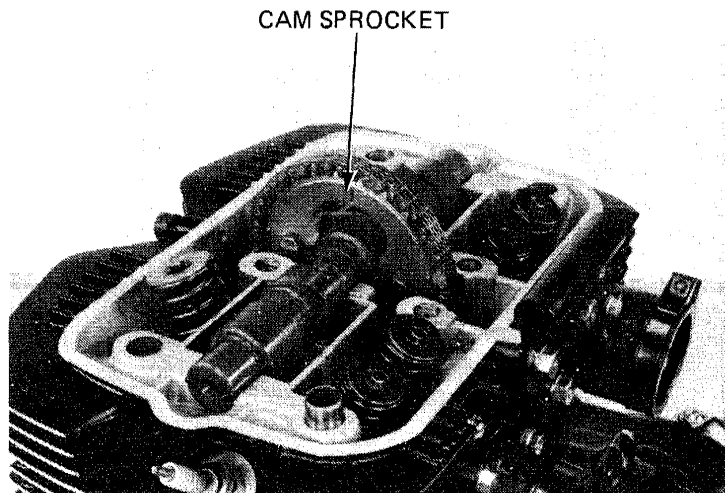
Mark each part to ensure original assembly.



Remove the cam sprocket from the camshaft.

NOTE

Do not drop the mounting bolts into the cylinder.

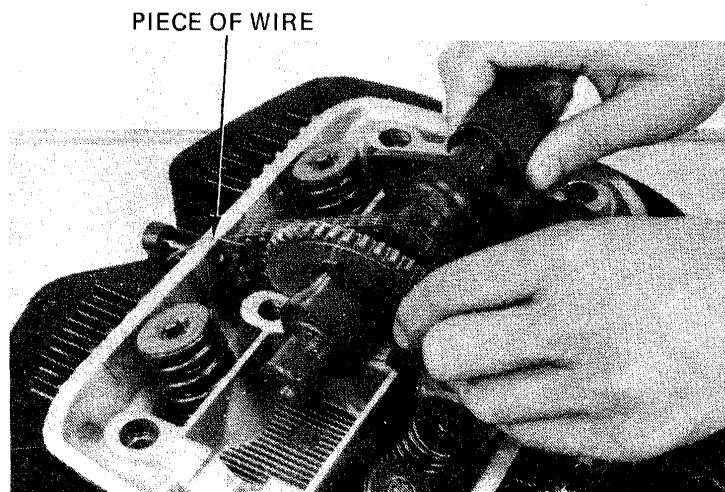


Remove the cam chain from the sprocket.

Remove the camshaft from the right side.

NOTE

Suspend the cam chain with a piece of wire to keep it from falling into the cylinder.





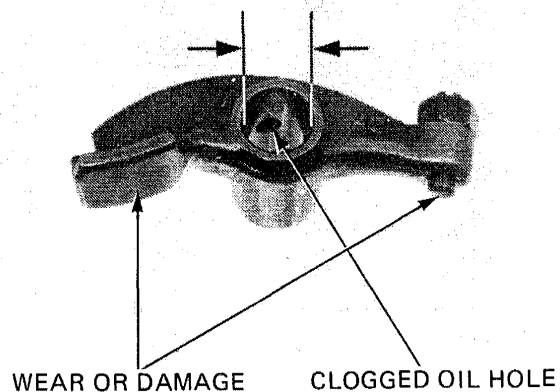
ROCKER ARM INSPECTION

Inspect the rocker arms for damage, wear or clogged oil holes. Measure the I.D. of each rocker arm.

SERVICE LIMIT: 12.03 mm (0.474 in)

NOTE

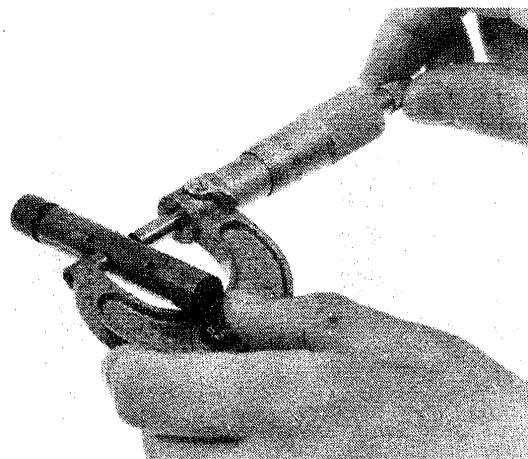
If any rocker arms require servicing or replacement, inspect the camshaft lobes for scoring, chipping, or flat spots.



ROCKER ARM SHAFT INSPECTION

Inspect the rocker arm shafts for wear or damage. Measure the O.D.

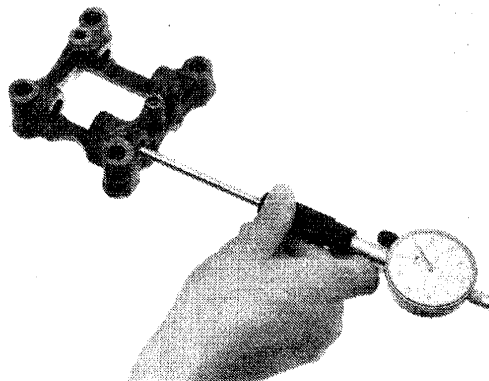
SERVICE LIMIT: 11.95 mm (0.470 in)



CAMSHAT HOLDER ROCKER ARM SHAFT HOLE INSPECTION

Measure the I.D. of the rocker arm shaft hole of the camshaft holders.

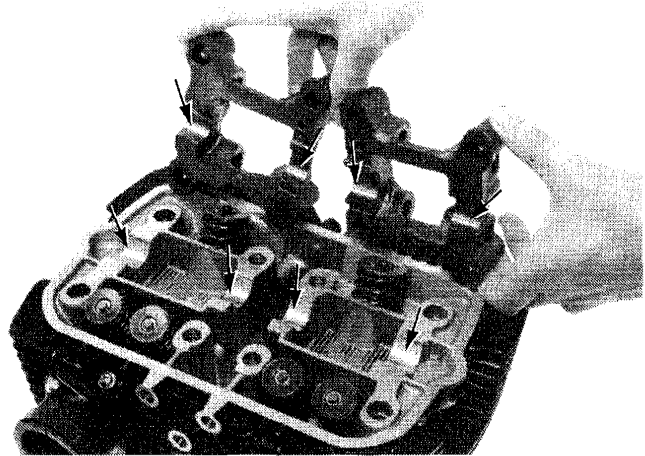
SERVICE LIMIT: 12.04 mm (0.474 in)



**CAM BEARING SURFACE INSPECTION**

Inspect the cam bearing surfaces for scoring, scratches, or evidence of insufficient lubrication.

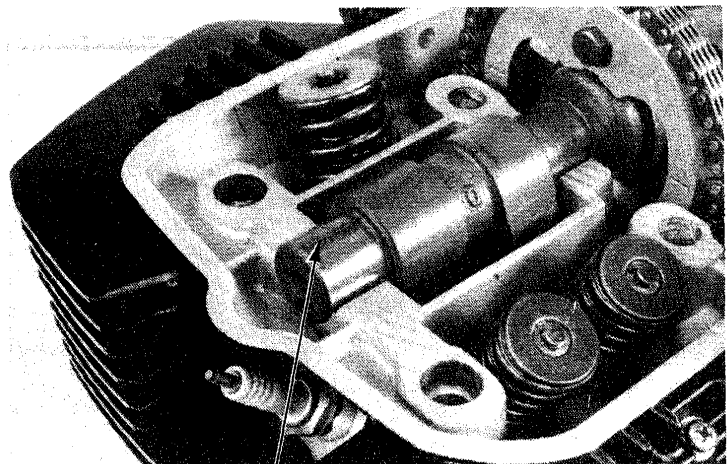
Make sure the oil passages are clear.

**CAMSHAFT OIL CLEARANCE**

Lay a strip of plastigauge lengthwise on top of each camshaft journal.

NOTE

Wipe any oil from the journals before using plastigauge.



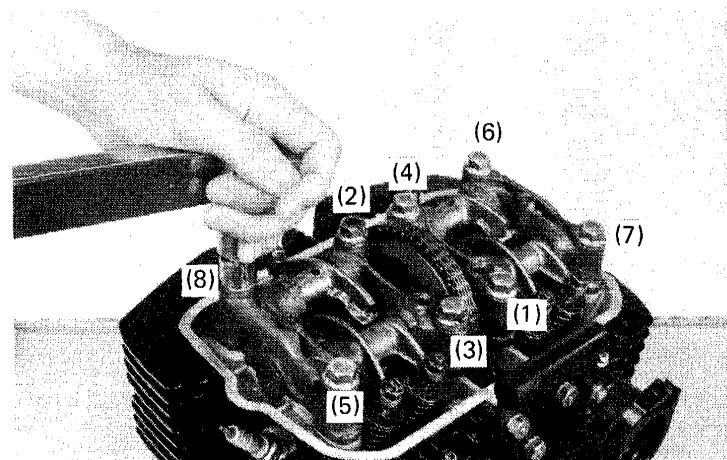
PLASTIGAUGE

Loosen all the valve adjusters, then install the camshaft holders and tighten to the specified torque in the sequence shown.

TORQUE: 30–33 N·m (3.0–3.3 kg·m, 22–24 ft·lb)

NOTE

Do not rotate the camshaft when using plastigauge.



Remove the camshaft holders and measure the Width of plastigauge. The widest thickness determines the oil clearance.

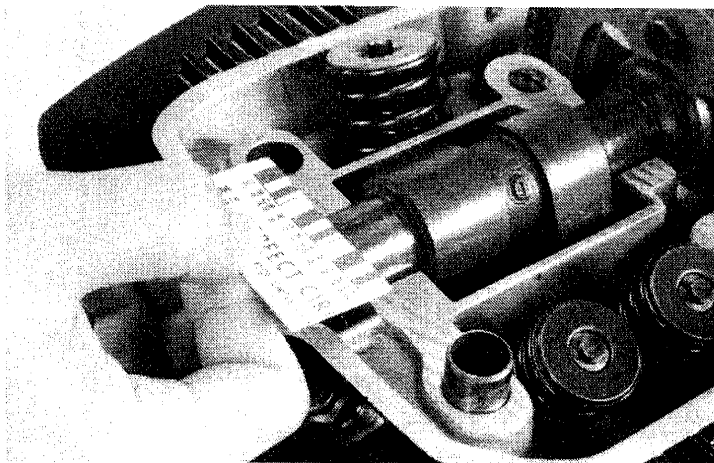
SERVICE LIMIT:

ENDS: 0.20 mm (0.008 in)

CENTER: 0.23 mm (0.009 in)

When the service limits are exceeded, replace the camshaft and recheck the oil clearance.

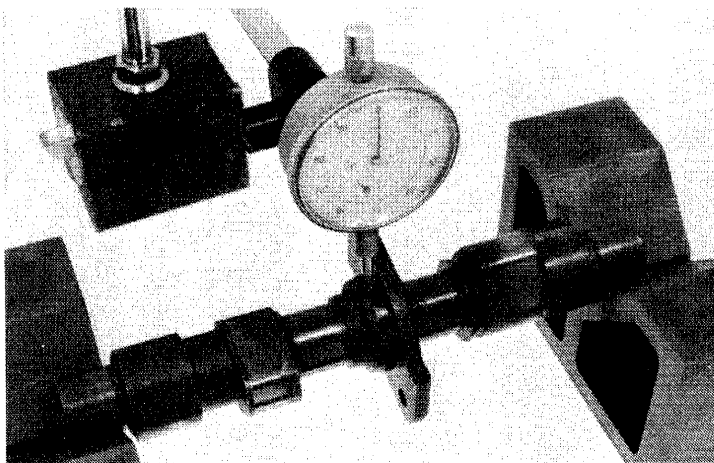
Replace the cylinder head and camshaft holders if the clearance still exceeds service limits.



CAMSHAFT RUNOUT

Check the camshaft runout with a dial indicator. Support both ends of the camshaft with V-blocks.

SERVICE LIMIT: 0.10 mm (0.004 in)

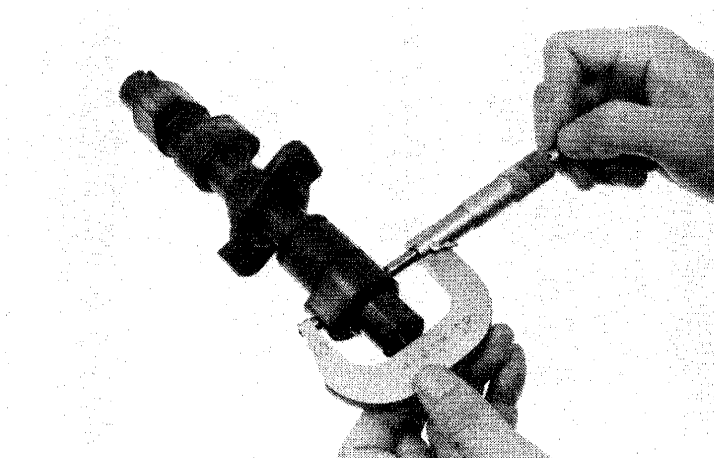


CAM LOBE INSPECTION

Using a micrometer, measure each cam lobe. Check for wear or damage.

SERVICE LIMITS: IN: 36.9 mm (1.45 in)

EX: 36.9 mm (1.45 in)





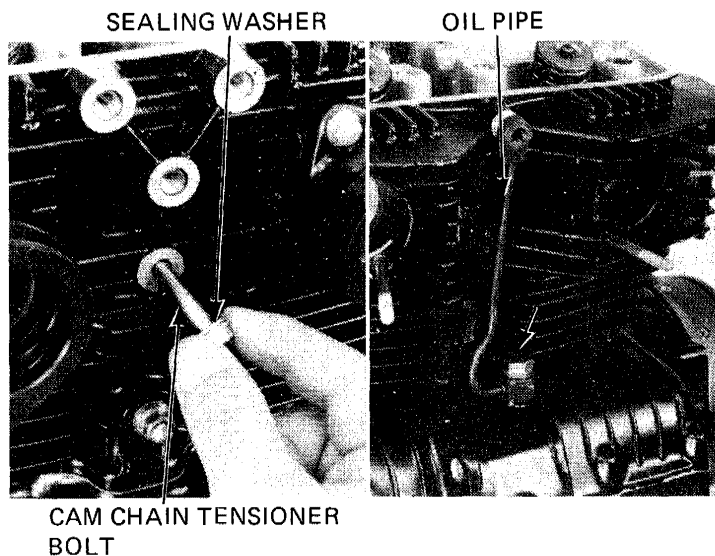
CYLINDER HEAD REMOVAL

Remove the upper engine bracket and exhaust pipes.

Disconnect the carburetors from the insulators.

Remove the cam chain tensioner bolt and sealing washer.

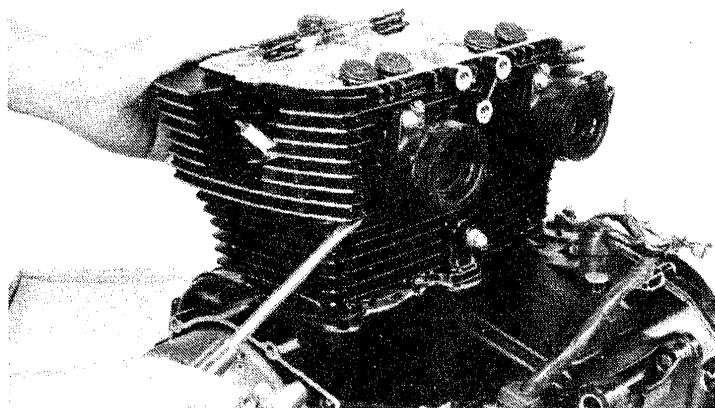
Remove the oil pipe.



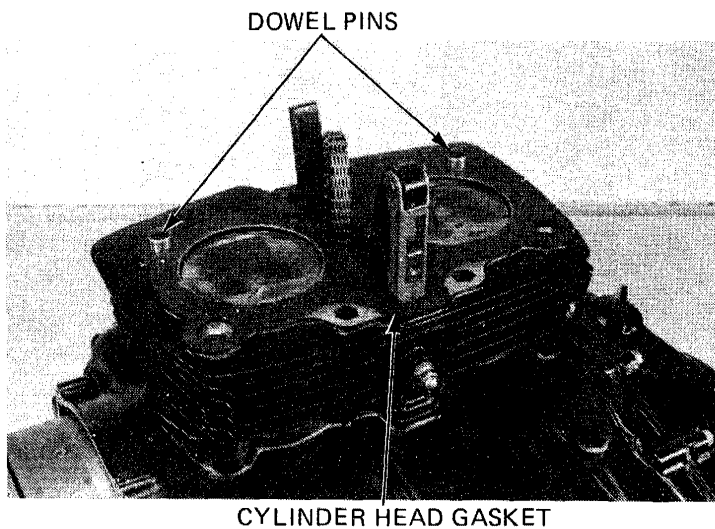
Remove the cylinder head.

CAUTION :

To prevent damage to the fins, pry only at the ribbed areas.



Remove the cylinder head gasket and dowel pins.



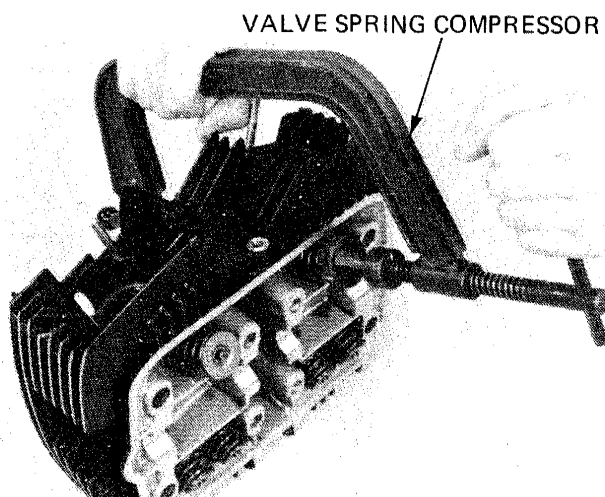


CYLINDER HEAD DISASSEMBLY

Remove the valve spring cotters, retainers springs and valves.

NOTE

- Do not compress the valve springs more than necessary to remove the valve spring cotters.
- Mark all disassembled parts to ensure correct reassembly.

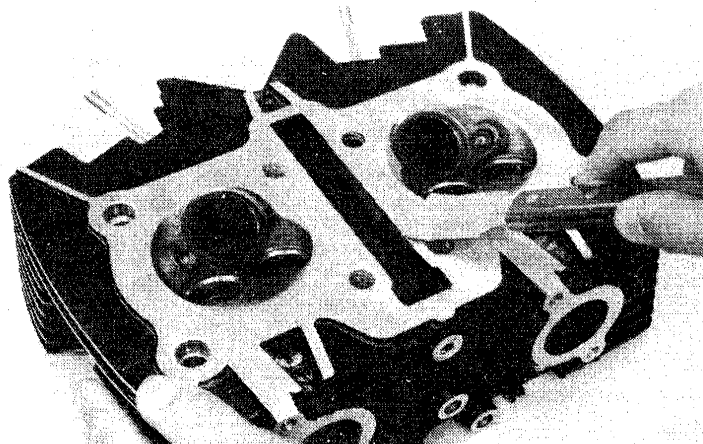


Remove carbon deposits from the combustion chamber.

Clean off the head gasket surfaces.

NOTE

- Avoid damaging the gasket surfaces.
- The gasket will come off easier if soaked in solvent.

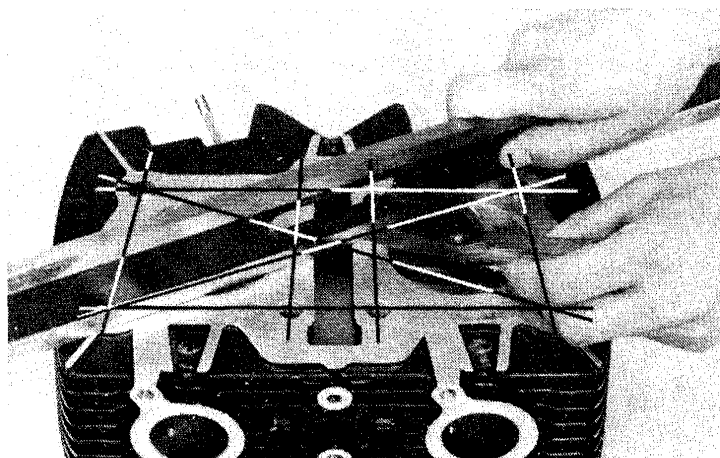


CYLINDER HEAD INSPECTION

Check the spark plug holes and valve areas for cracks.

Check the cylinder head for warpage with a straight edge and a feeler gauge.

SERVICE LIMIT: 0.10 mm (0.004 in)



**CYLINDER HEAD/VALVE****VALVE SPRING FREE LENGTH INSPECTION**

Measure the free length of the inner and outer valve springs.

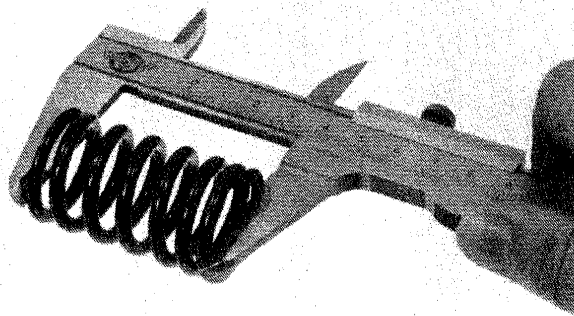
SERVICE LIMITS:

INNER: IN. 35.5 mm (1.40 in)

EX. 39.5 mm (1.56 in)

OUTER: IN. 49.0 mm (1.93 in)

EX. 49.5 mm (1.95 in)

**VALVE STEM-TO-GUIDE CLEARANCE**

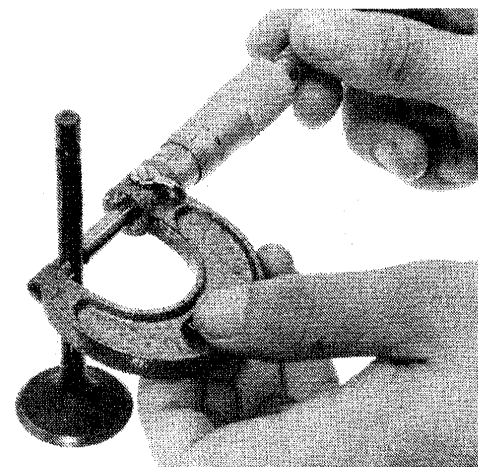
Inspect each valve for bending, burning, scratches or abnormal stem wear.

Check the valve movement in the guide.

Measure and record each valve stem O.D.

SERVICE LIMITS: IN: 5.44 mm (0.214 in)

EX: 6.54 mm (0.257 in)

**NOTE**

Ream the guides to remove any carbon build-up before checking clearance.

Measure and record each valve guide I.D. using a ball gauge or inside micrometer.

SERVICE LIMITS: IN: 5.60 mm (0.220 in)

EX: 6.70 mm (0.264 in)

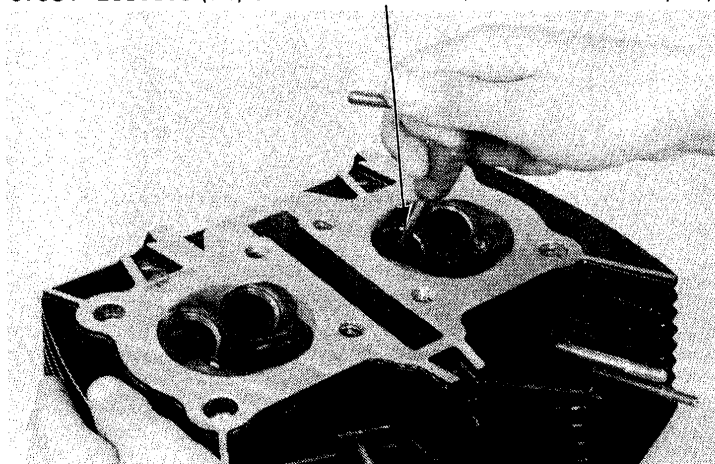
Subtract each valve stem O.D. from the corresponding guide I.D. to obtain the stem to guide clearance.

SERVICE LIMIT: IN: 0.10 mm (0.004 in)

EX: 0.10 mm (0.004 in)

VALVE GUIDE REAMER

07984-2000000 (IN) or 07984-6570100/07984-6110000 (EX)



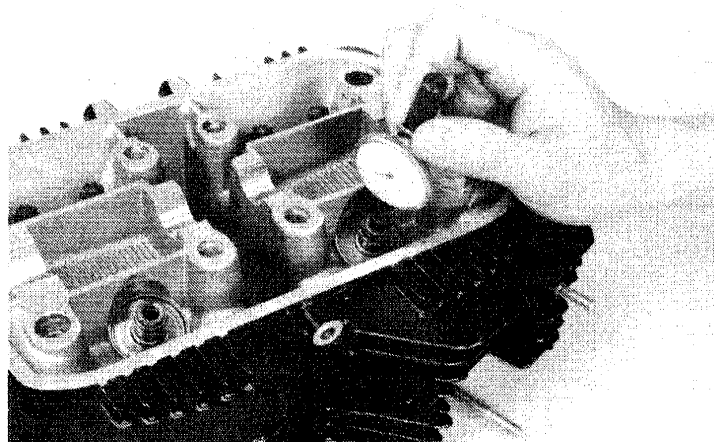
NOTE

If the stem-to-guide clearance exceeds the service limits, determine if a new guide with standard dimensions would bring the clearance within tolerance. If so, replace any guides as necessary and ream to fit.

If stem-to-guide clearance still exceeds the service limits with new guides, replace the valves and guides.

NOTE

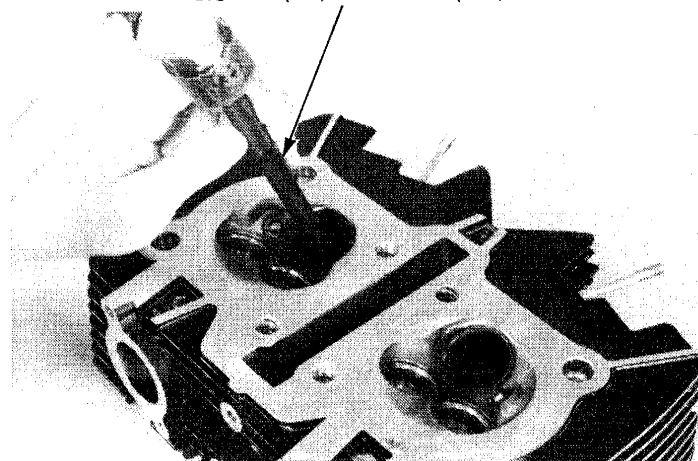
Reface the valve seats whenever the valve guides are replaced (page 6-12).



VALVE GUIDE REPLACEMENT

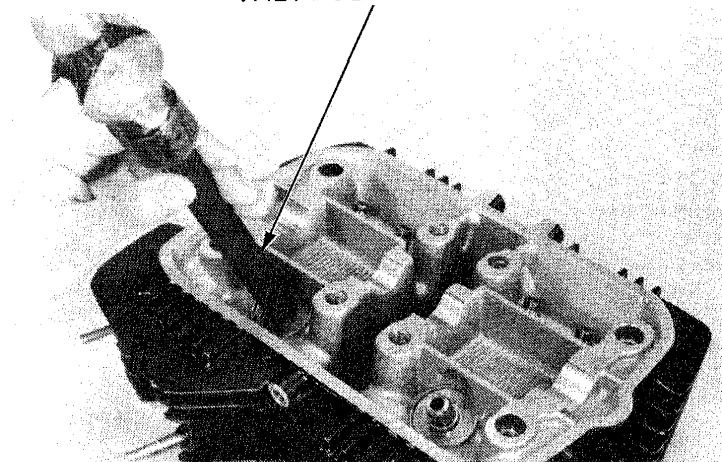
Support the cylinder head and drive out the guide from the valve port being careful not to damage the head.

VALVE GUIDE REMOVER
5.5 mm (IN) or 6.6 mm (EX)



Install a new oversize valve guide from the top of the head.

VALVE GUIDE DRIVER





CYLINDER HEAD/VALVE

VALVE GUIDE REAMER

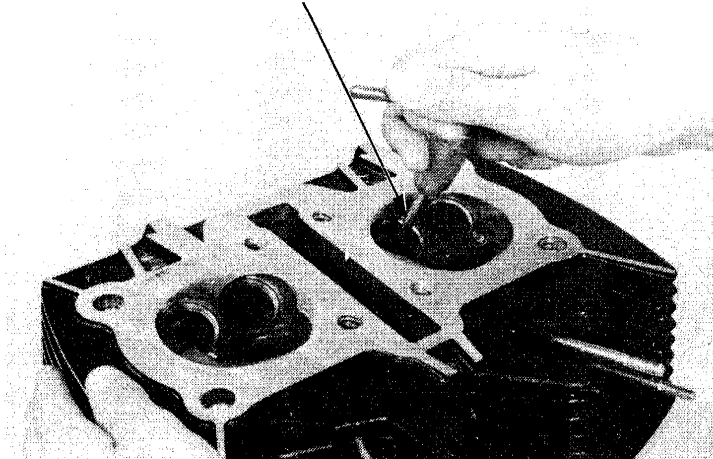
07984-2000000 (IN) or 07984-6570100/07984-6110000 (EX)

Ream the new valve guide after installation.

NOTE

Use cutting oil on the reamer during this operation.

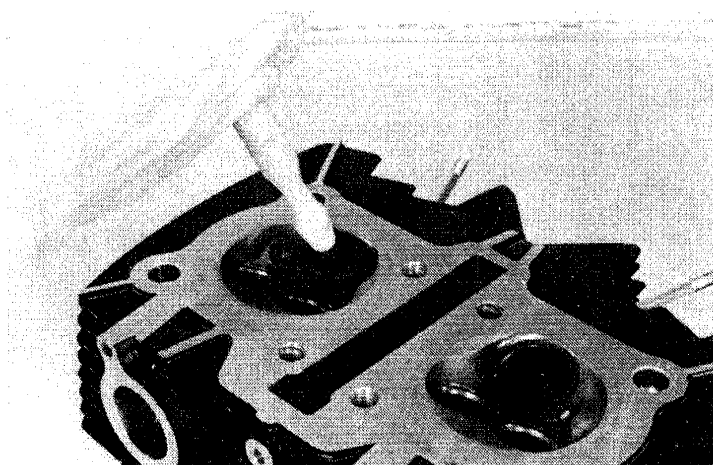
Clean the cylinder head thoroughly to remove any metal particles.



VALVE SEAT INSPECTION AND GRINDING

Clean all intake and exhaust valves thoroughly to remove carbon deposits.

Apply a light coating of valve lapping compound to each valve face. Lap each valve and seat using a rubber hose or other hand-lapping tool.



Remove the valve and inspect the face.

NOTE

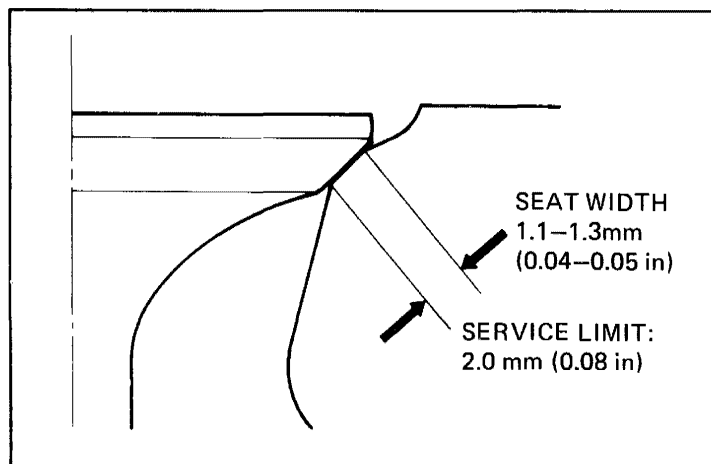
The valves cannot be ground. If the valve face is rough, worn unevenly, or contacts the seat improperly, the valve must be replaced.

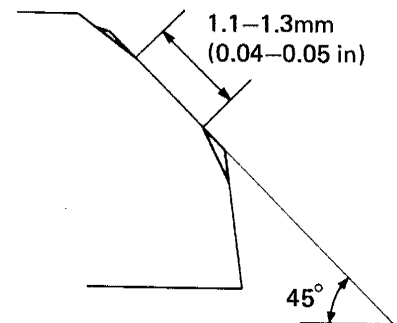
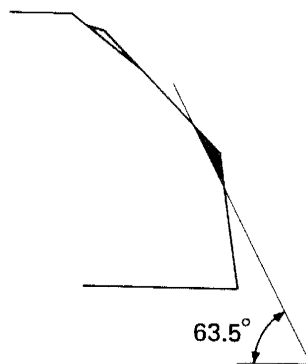
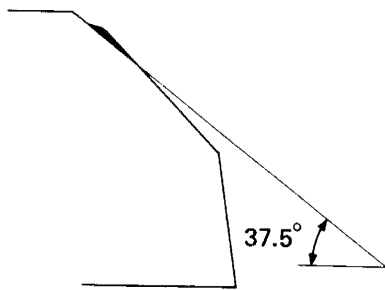
Inspect the valve seats.

If the seat is too wide, too narrow, or has low spots, the seat must be ground. A power grinder is recommended for good valve sealing.

NOTE

- Follow the refacer manufacturer's operating instructions.
- Hand valve seat cutters are not available in U.S.A.





After cutting the seat, apply lapping compound to the valve face, and lap the valve using light pressure. After lapping, wash any residual compound off the cylinder head and valve.

CYLINDER HEAD ASSEMBLY

NOTE

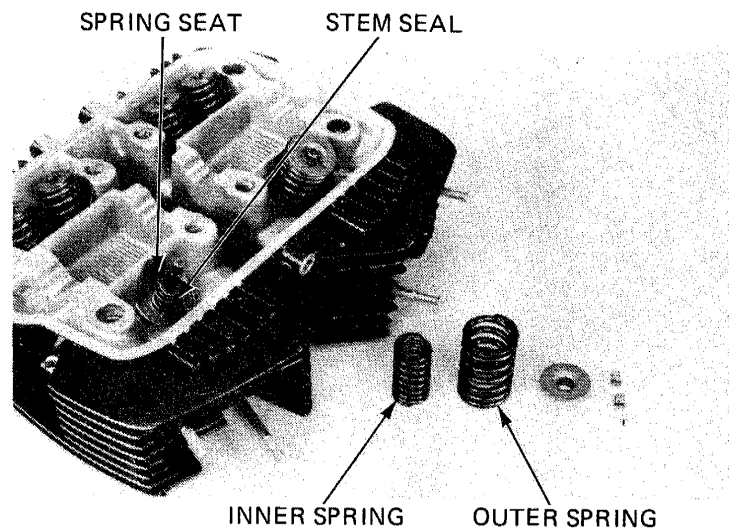
Replace the valve stem seals when reassembling.

Lubricate each valve stem with oil and insert the valve into the valve guide.

Install the valve springs and retainers.

NOTE

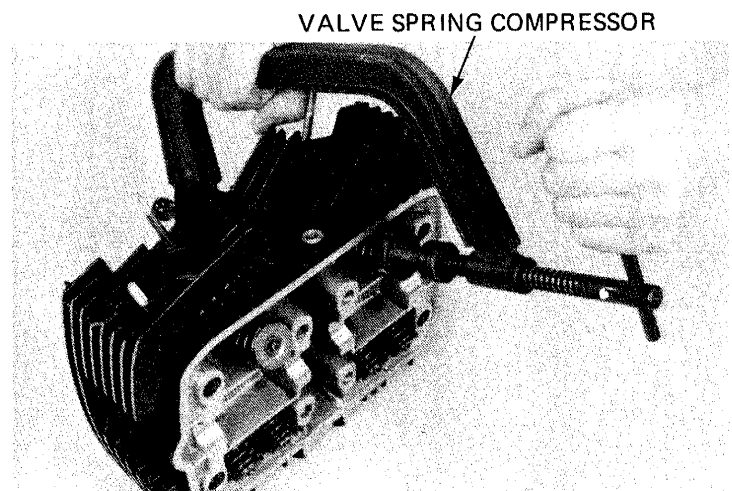
Install the valve springs with the tightly wound coils facing the cylinder head.



Install the valve cotters.

CAUTION:

To prevent loss of tension, do not compress the valve spring more than necessary to install the valve cotters.

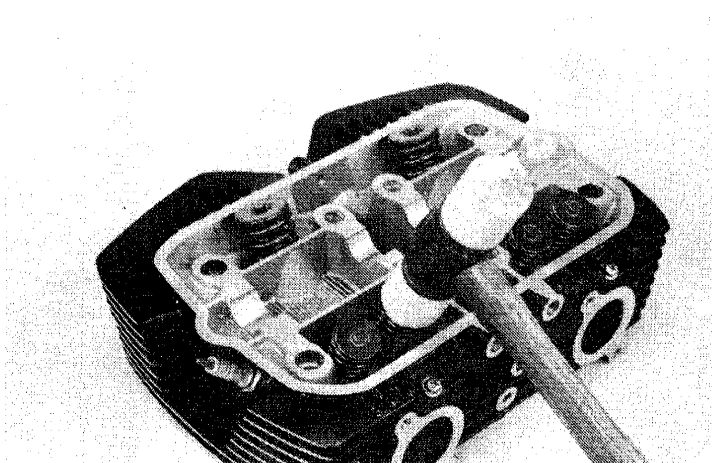




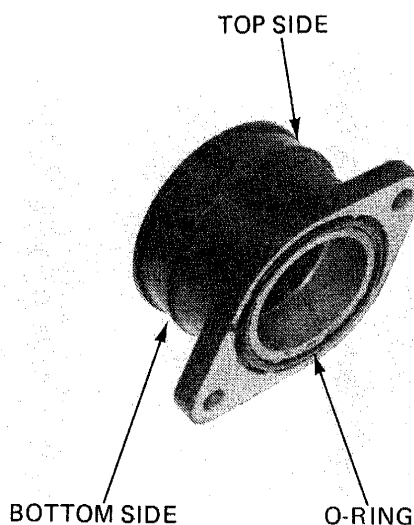
Tap the valve stems gently with a soft hammer to firmly seat the cotters.

NOTE

Support the cylinder head above the work bench surface to prevent possible valve damage.

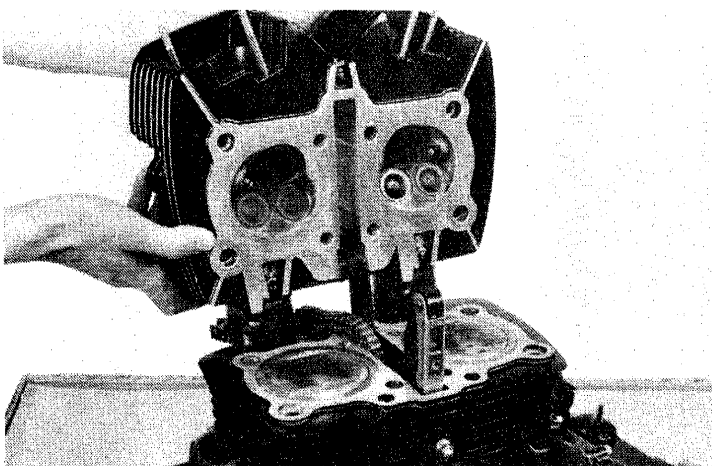


Install the carburetor insulator with the narrow end down.



CYLINDER HEAD INSTALLATION

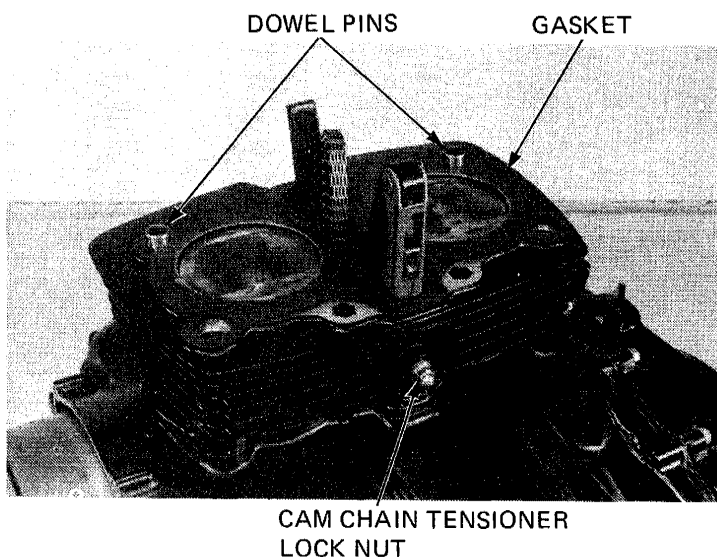
Clean the cylinder head gasket surfaces of any gasket material.





Install the dowel pins and a new gasket.

Loosen the cam chain tensioner lock nut and retighten it with the tensioner pulled up fully.



Install the cylinder head.

Install the cam chain tensioner bolt and sealing washer.

Install the oil pipe with its sealing washers.

Install the upper engine bracket and exhaust pipes if the engine is installed in the frame.

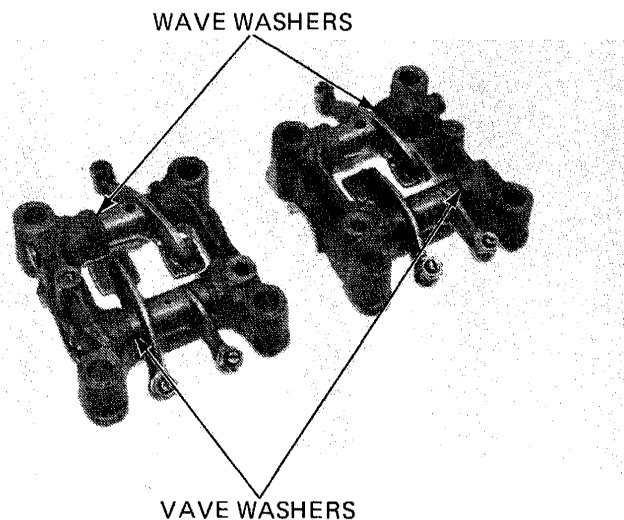


ROCKER ARM ASSEMBLY

Position the rocker arms and wave washers and push in the rocker arm shafts.

NOTE

Apply a thin coat of oil to the shafts before assembling.



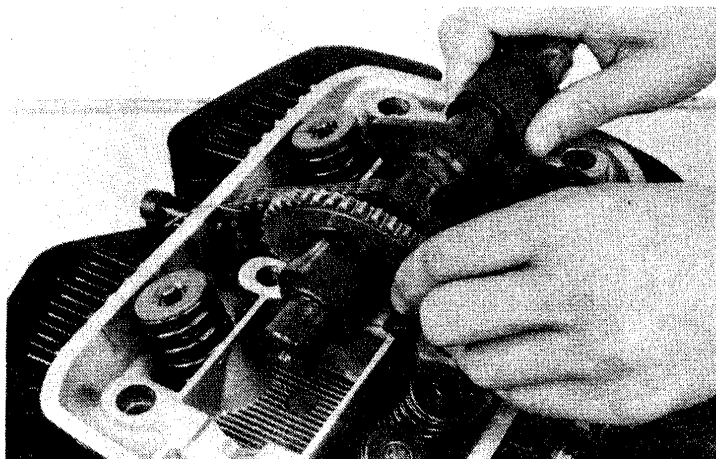
CAMSHAFT/ROCKER ARM INSTALLATION

Lubricate the camshaft bearings with molybdenum disulfide grease.

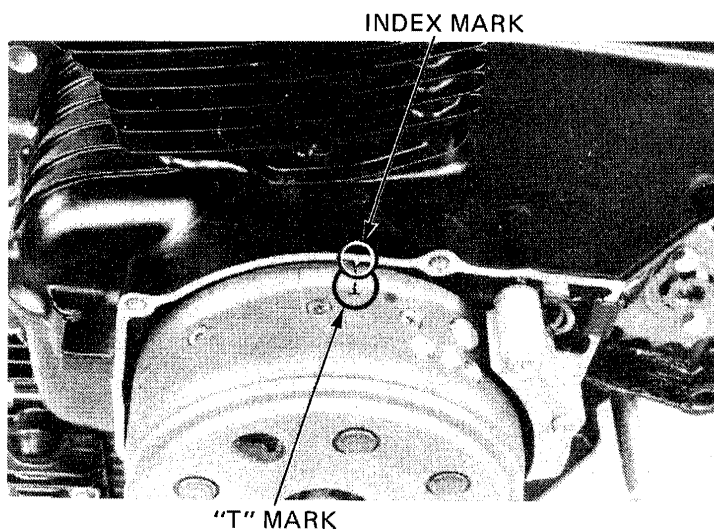
Install the camshaft and camshaft sprocket.

NOTE

Install the camshaft sprocket with the timing mark to the left side of the engine.



Align the "T" mark on the alternator rotor with the index mark.



Align the timing marks on the sprocket with the head cover mating surface.

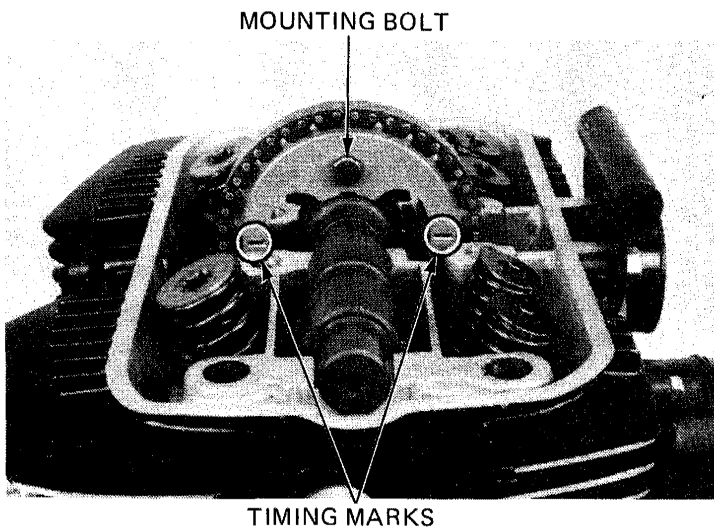
Place the timing chain on the sprocket while holding the sprocket.

Tighten the sprocket mounting bolts to specified torque.

NOTE

Do not allow the bolts to fall into the crankcase.

TORQUE: 18–22 N·m (1.8–2.2 kg·m, 13–16 ft·lb)

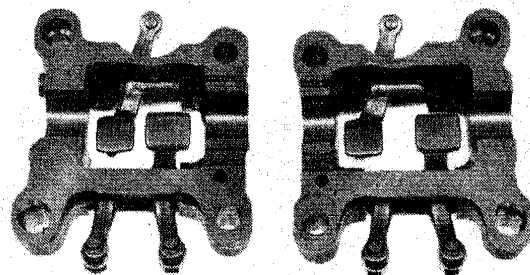




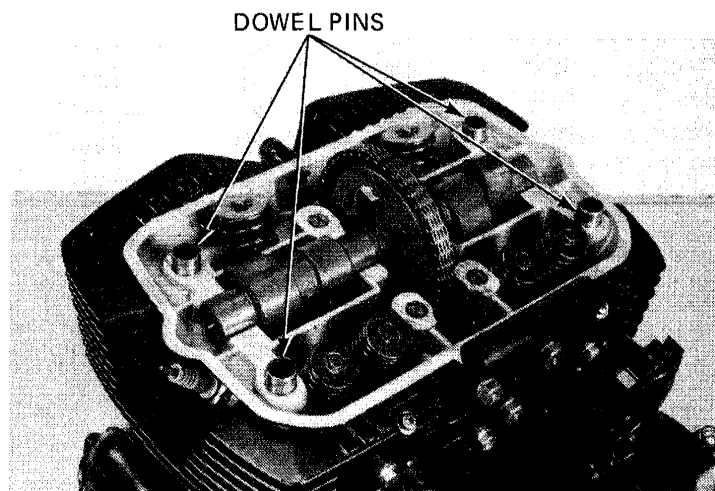
Apply liquid sealant to the head contacting faces of the camshaft holders.

CAUTION:

Do not apply an excessive amount of liquid sealer which could enter the camshaft bearings.



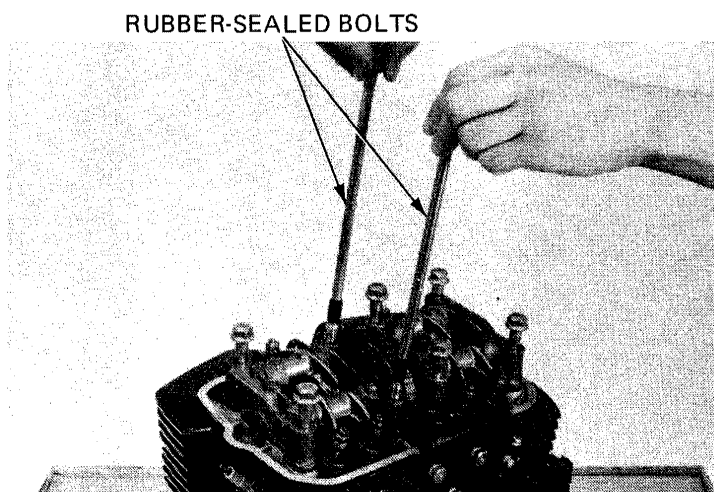
Install the dowel pins in position.
Install the camshaft holders.



Install the cylinder head bolts.

NOTE

Each inside bolt has a copper washer. Left cylinder inside bolts are rubber-sealed.





Tighten the cylinder head bolts in the sequence shown.

TORQUE: 30–33 N·m (3.0–3.3 kg·m, 22–24 ft·lb)

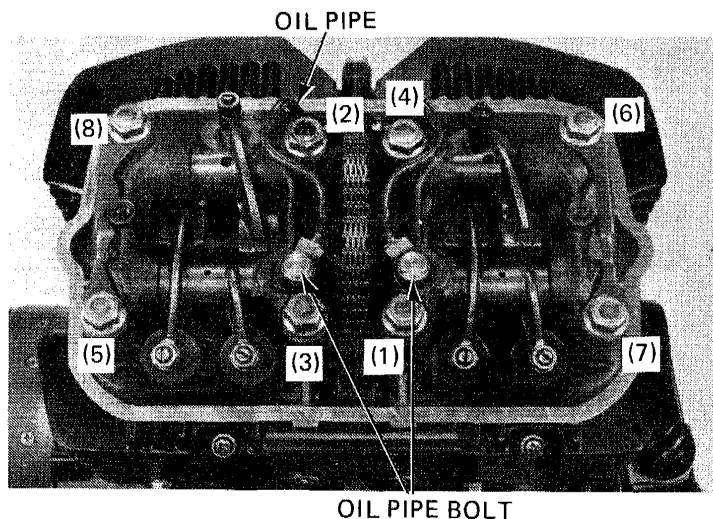
NOTE

- Torque in 2–3 steps.
- Clean excessive sealant from the head.

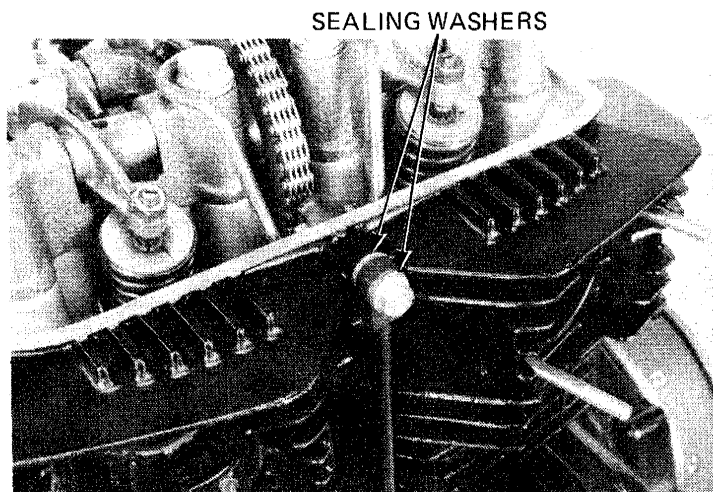
Install the oil pipe.

CAUTION:

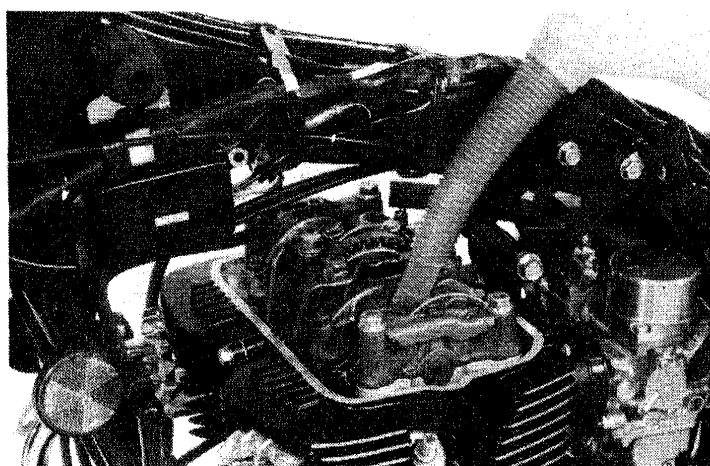
When tightening the oil pipe bolt, hold the flat portion of the oil pipe joint with universal wrench or equivalent to prevent the joint from turning together.



Make sure that the oil pipe sealing washers are installed in correct position.



Fill the oil pockets in the head with oil so that the cam lobes are submerged.





Adjust the valve clearance (page 3-12).

Adjust the cam chain tension (page 3-14).

Inspect the cylinder head cover gasket for damage or deterioration.

Install the cylinder head cover and tighten the bolts.

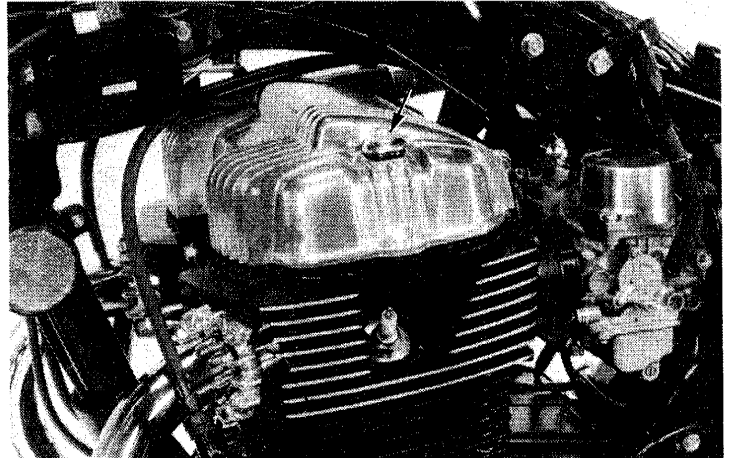
TORQUE: 8–12 N·m (0.8–1.2 kg·m, 6–9 ft·lb)

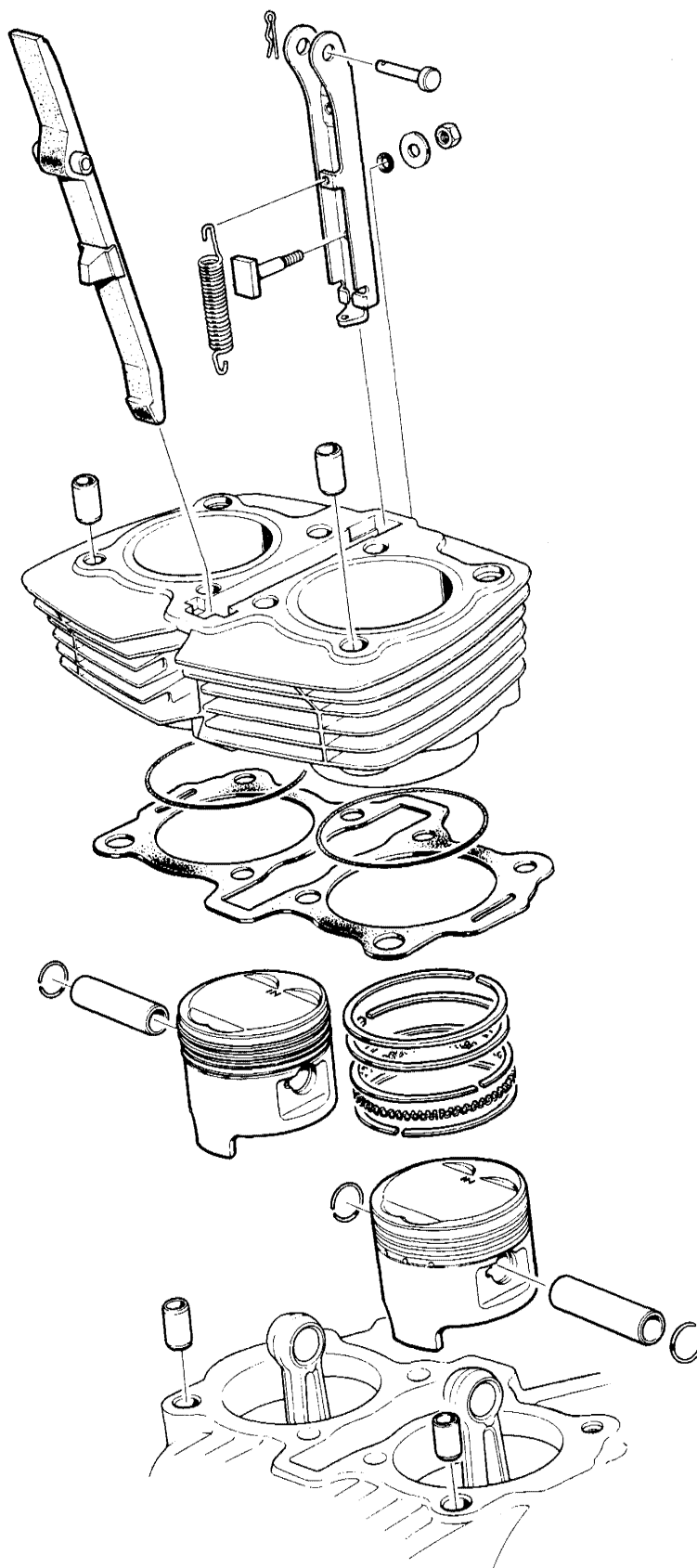
Install the left crankcase cover.

Tighten the high tension wire clamp bolts.

Install the spark plug caps.

Install the fuel tank and seat.







SERVICE INFORMATION	7-1	PISTON REMOVAL	7-3
TROUBLESHOOTING	7-1	PISTON INSTALLATION	7-7
CYLINDER REMOVAL	7-2	CYLINDER INSTALLATION	7-7

SERVICE INFORMATION

GENERAL

This section covers removal and installation of the cylinder and pistons. These services can be accomplished with the engine installed in the frame.

SPECIFICATIONS

			STANDARD	SERVICE LIMIT
Cylinder	I.D.		75.000—75.010 mm (2.9528—2.9531 in)	75.10 mm (2.957 in)
	Warpage		_____	0.10 mm (0.004 in)
Piston, piston rings and piston pin	Piston ring-to-ring groove clearance	TOP	0.030—0.060 mm (0.0012—0.0024 in)	0.10 mm (0.004 in)
		SECOND	0.025—0.055 mm (0.0010—0.0022 in)	0.10 mm (0.004 in)
	Ring end gap	TOP	0.10—0.30 mm (0.004—0.012 in)	0.50 mm (0.020 in)
		SECOND	0.10—0.30 mm (0.004—0.012 in)	0.50 mm (0.020 in)
		OIL (SIDE RAIL)	0.20—0.90 mm (0.008—0.035 in)	1.10 mm (0.043 in)
	Piston O.D.		74.96—74.99 mm (2.951—2.952 in)	74.90 mm (2.949 in)
	Piston pin bore		18.002—18.008 mm (0.7087—0.7090 in)	18.04 mm (0.710 in)
NEW	Connecting rod small end I.D.		18.016—18.034 mm (0.7093—0.7100 in)	18.06 mm (0.711 in)
	Piston pin O.D.		17.994—18.000 mm (0.7084—0.7087 in)	17.98 mm (0.708 in)
	Piston-to-piston pin clearance		_____	0.040 mm (0.0016 in)
	Cylinder-to-piston clearance		_____	0.10 mm (0.004 in)

TOOLS

SPECIAL

Piston base 07958-4130000 or 07954-5900000
Piston ring compressor 07955-4630000

TROUBLESHOOTING

Compression too low or unstable

1. Worn cylinder or piston rings

Excessive smoke

1. Worn cylinder or piston
2. Improper installation of piston rings
3. Scored or scratched piston or cylinder wall

Overheating

1. Excessive carbon build-up on the piston or combustion chamber wall.

Knocking or abnormal noise

1. Worn piston and cylinder
2. Excessive carbon build-up



CYLINDER REMOVAL

Remove the cylinder head (see Section 6).

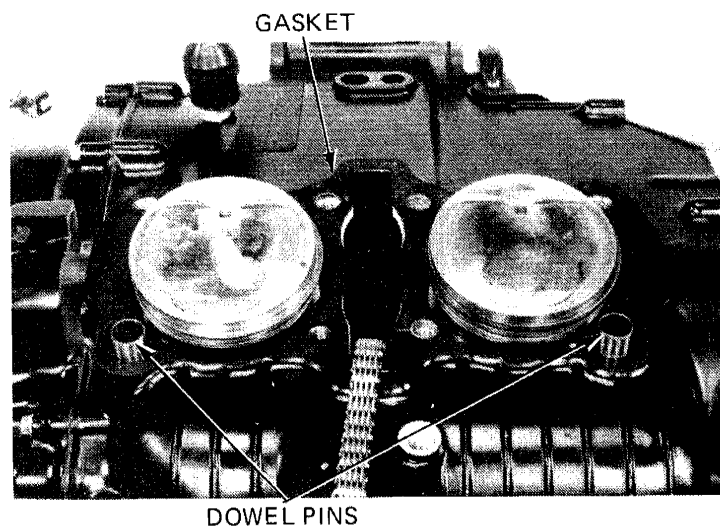
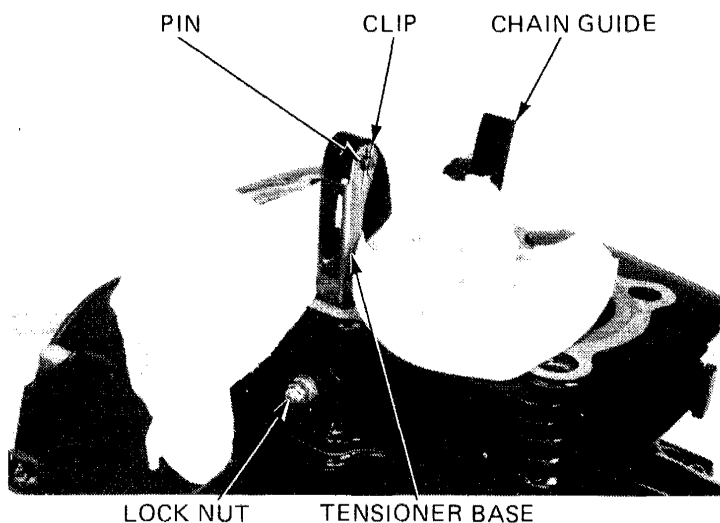
Remove the cam chain tensioner clip and pin being careful not to drop the clip into the crankcase.

Remove the tensioner lock nut and sealing washer.

Remove the tensioner base and remove the cam chain guide.

Remove the cylinder and clean the cylinder base.

Remove the gasket and dowel pins.



CYLINDER INSPECTION

Inspect the cylinder bores for wear.

SERVICE LIMIT: 75.10 mm (2.957 in)

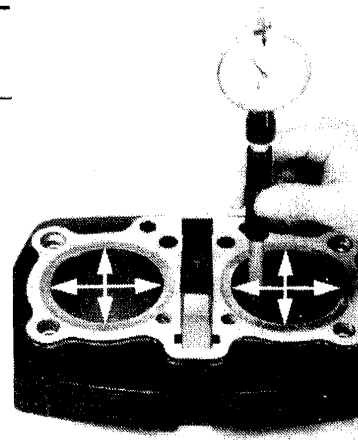
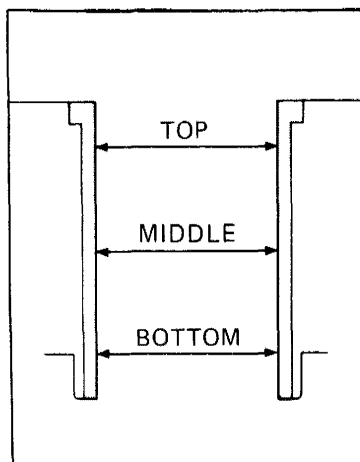
Measure at three locations, top, middle, and bottom, in two axis, 90 degrees apart.

If cylinder taper or out-of-round exceeds the service limit, bore the cylinders to the next oversize.

SERVICE LIMITS:

TAPER: 0.05 mm (0.002 in)

OUT-OF-ROUND: 0.05 mm (0.002 in)

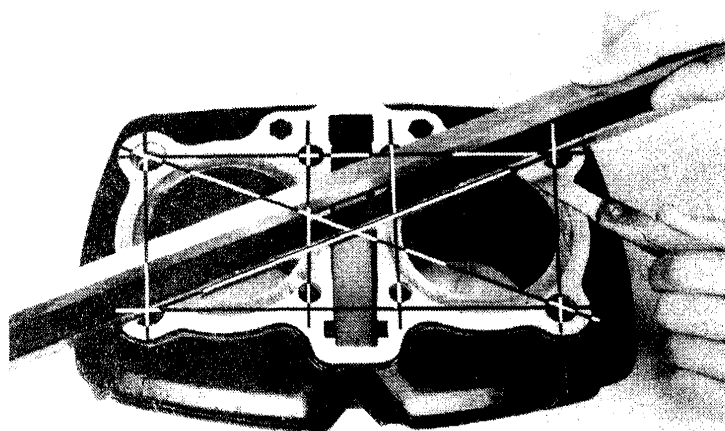


NEW



Inspect the top of the cylinders for warpage.
Check in an X pattern as shown.

SERVICE LIMIT: 0.10 mm (0.004 in)



PISTON REMOVAL

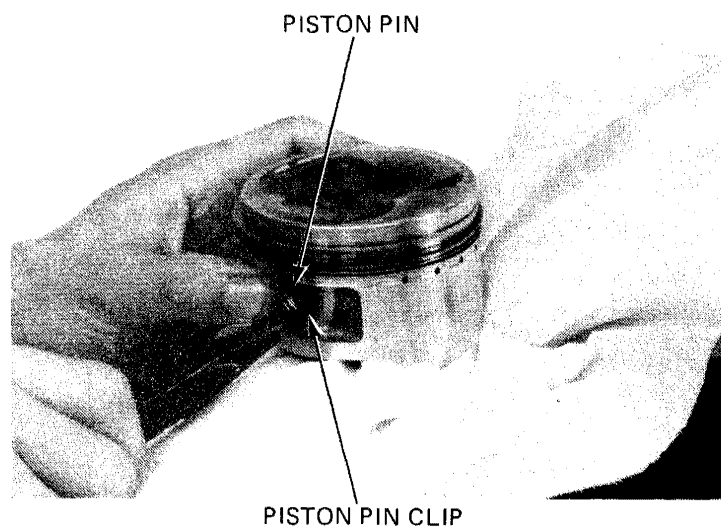
Stuff a rag or shop towel into the crankcase.

Remove each piston pin clip with pliers being careful not to drop the clips into the crankcase.

Press the piston pin out of the piston.

NOTE

Mark the pistons right and left to indicate their cylinder positions.



PISTON/PISTON RING INSPECTION

Inspect the piston ring-to-groove clearance.

Remove the piston rings.

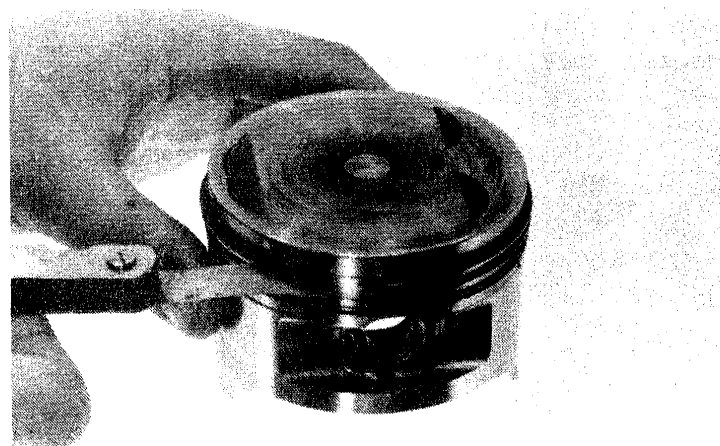
NOTE

Mark the rings so that they can be returned to their original locations.

Inspect the pistons for damage and cracks; ring grooves for wear.

SERVICE LIMIT:

TOP/SECOND: 0.10 mm (0.004 in)





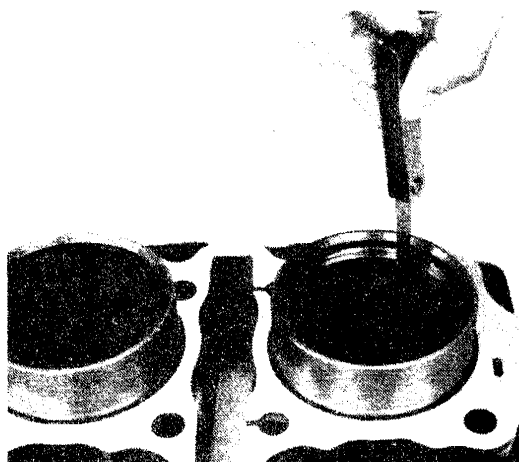
Insert each piston ring into the cylinder and inspect the end gap.

SERVICE LIMIT:

TOP: 0.50 mm (0.020 in)
SECOND: 0.50 mm (0.020 in)
OIL (Side rail): 1.10 mm (0.043 in)

STANDARD END GAP:

TOP: 0.10–0.30 mm (0.004–0.012 in)
SECOND: 0.10–0.30 mm (0.004–0.012 in)
OIL (Side rail): 0.20–0.90 mm (0.008–0.035 in)



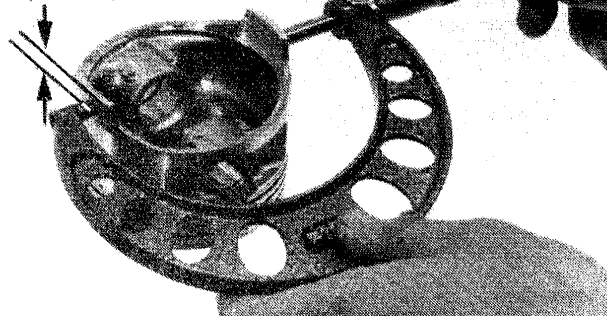
Measure the piston O.D. 7 mm (0.28 in) from the bottom of the skirt and 90° to the piston pin hole.

NEW **SERVICE LIMIT: 74.90 mm (2.949 in)**

Calculate the cylinder-to-piston clearance.

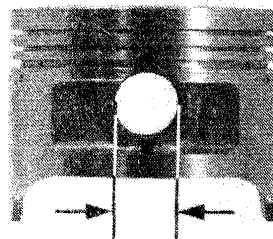
SERVICE LIMIT: 0.10 mm (0.004 in)

7 mm (0.28 in)



Measure the piston pin hole I.D.

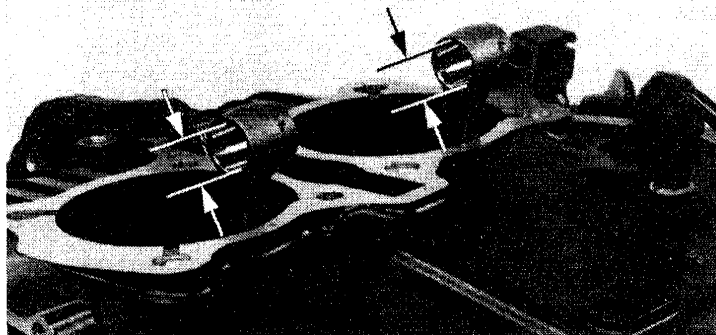
SERVICE LIMIT: 18.04 mm (0.710 in)





Measure the connecting rod small end I.D. (See Section 11 for replacement procedure)

SERVICE LIMIT: 18.06 mm (0.732 in)

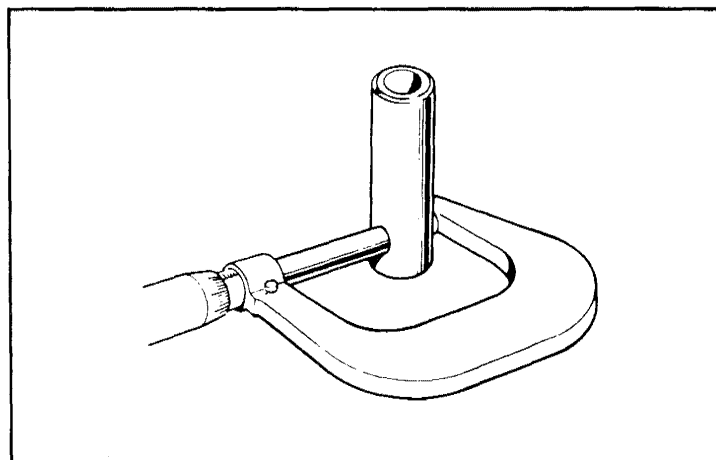


Measure the piston pin O.D.

SERVICE LIMIT: 17.98 mm (0.708 in)

Determine the piston-to-piston pin clearance.

SERVICE LIMIT: 0.04 mm (0.0016 in)

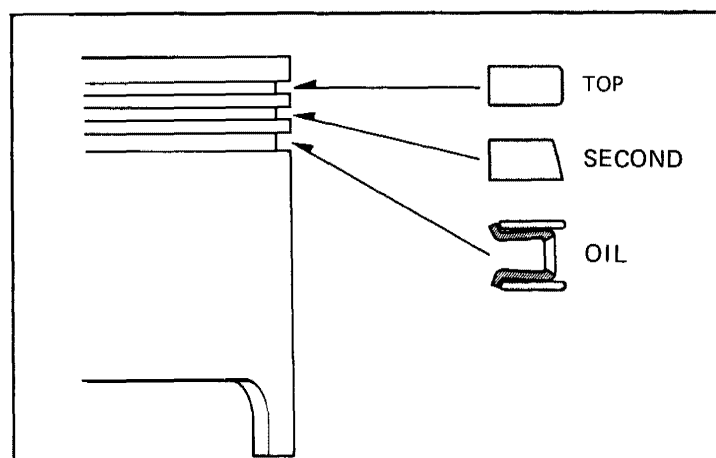


PISTON RING INSTALLATION

Install the piston rings.

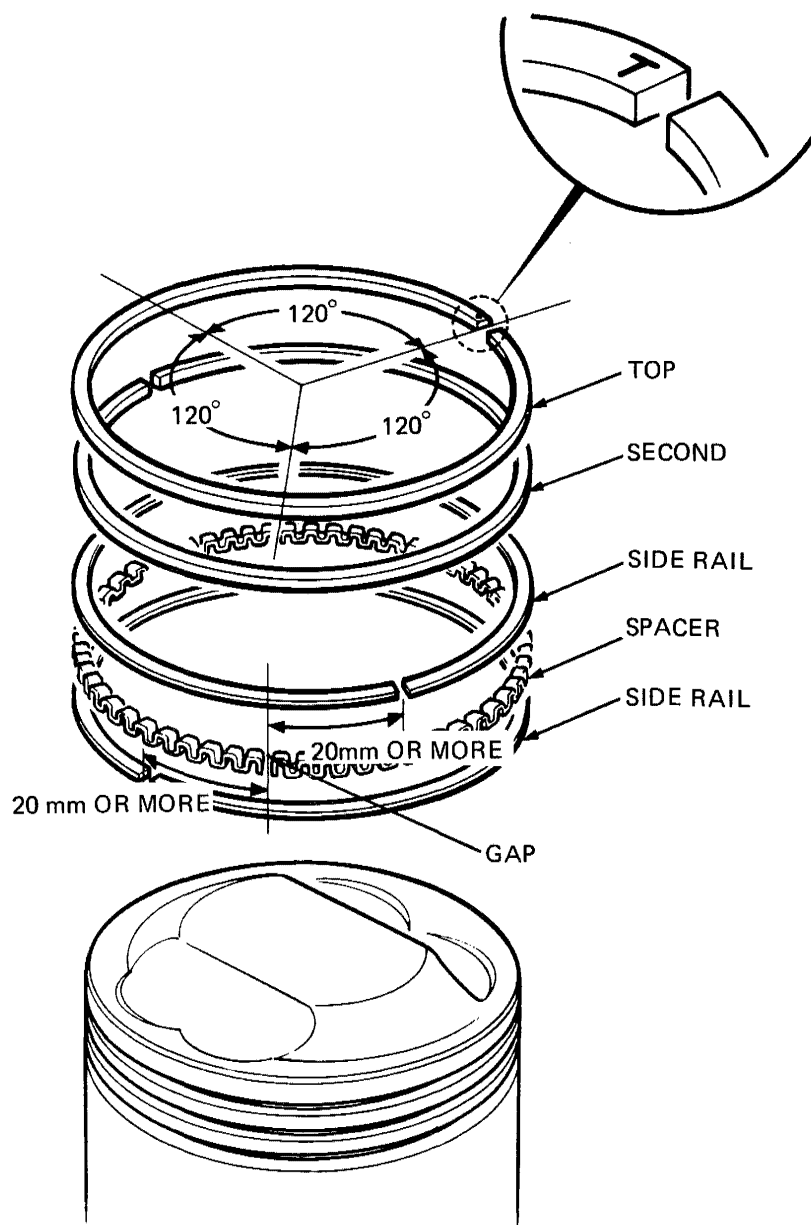
NOTE

- Avoid piston and piston ring damage during installation.
- All rings should be installed with the markings facing up.
- After installation the rings should be free to rotate in the lands.





Space the piston ring end gaps 120 degrees apart.
Do not align the gaps in the oil rings.





PISTON INSTALLATION

Install the pistons, piston pins and clips.

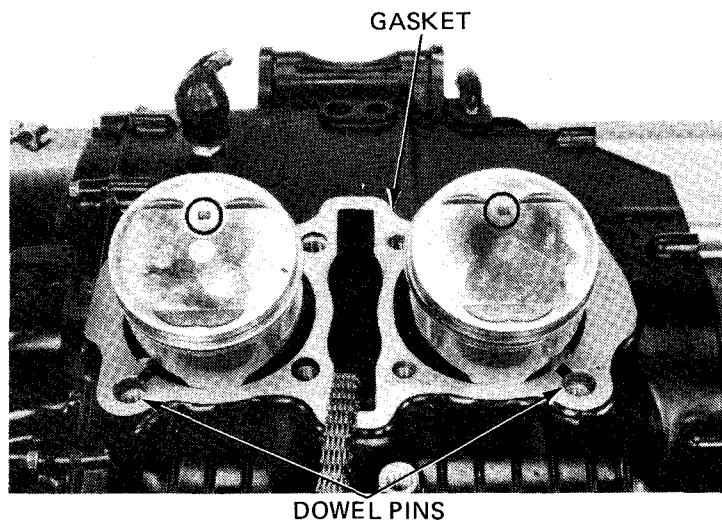
NOTE

- Position the "IN" mark on the piston toward the carburetor side of the cylinder.
- Install the pistons in their original locations.



CYLINDER INSTALLATION

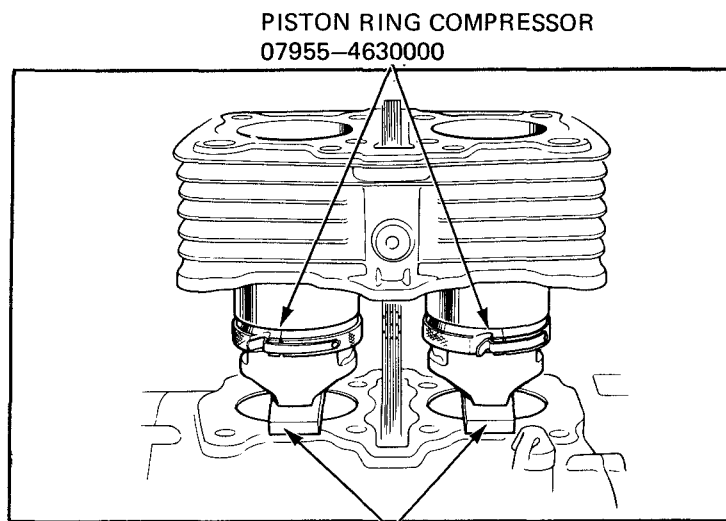
Install the dowel pins and cylinder gasket.



Install the cylinder.

NOTE

Avoid damaging the pistons and piston rings when installing the cylinders.



PISTON RING COMPRESSOR
07955-4630000

PISTON BASE
07958-4130000 or 07958-250000

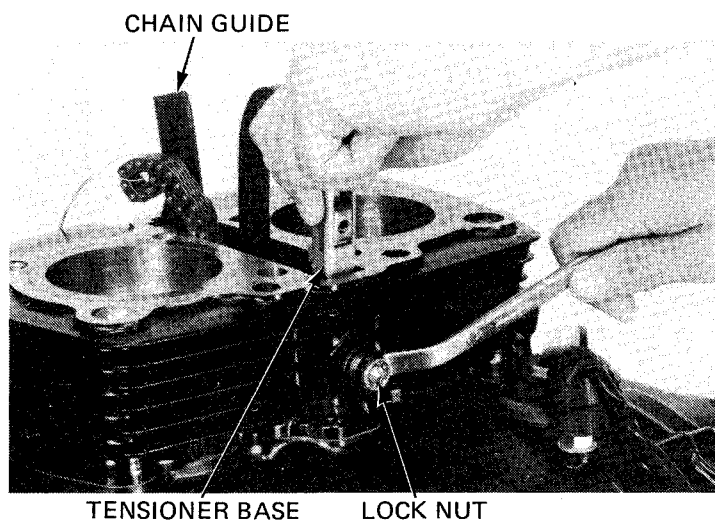


CYLINDER/PISTON

Install the cam chain guide.

Install the tensioner base on the cylinder with the sealing washer and lock nut.

Tighten the lock nut with the tensioner base pulled up fully.

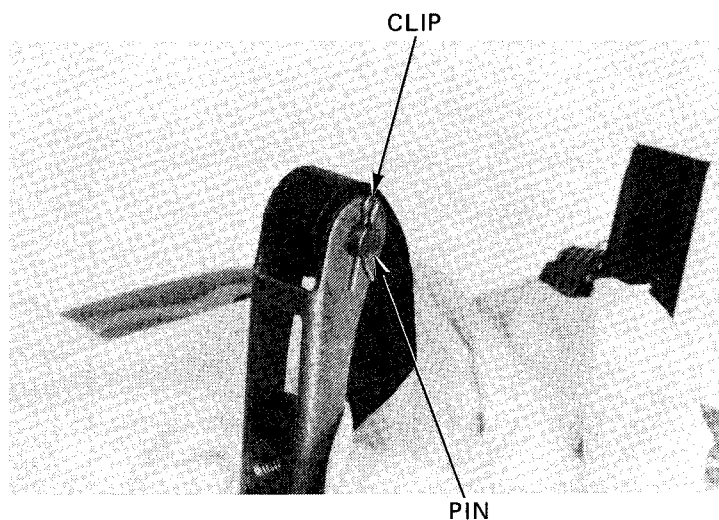


Install the tensioner on the tensioner base with the pin and clip.

NOTE

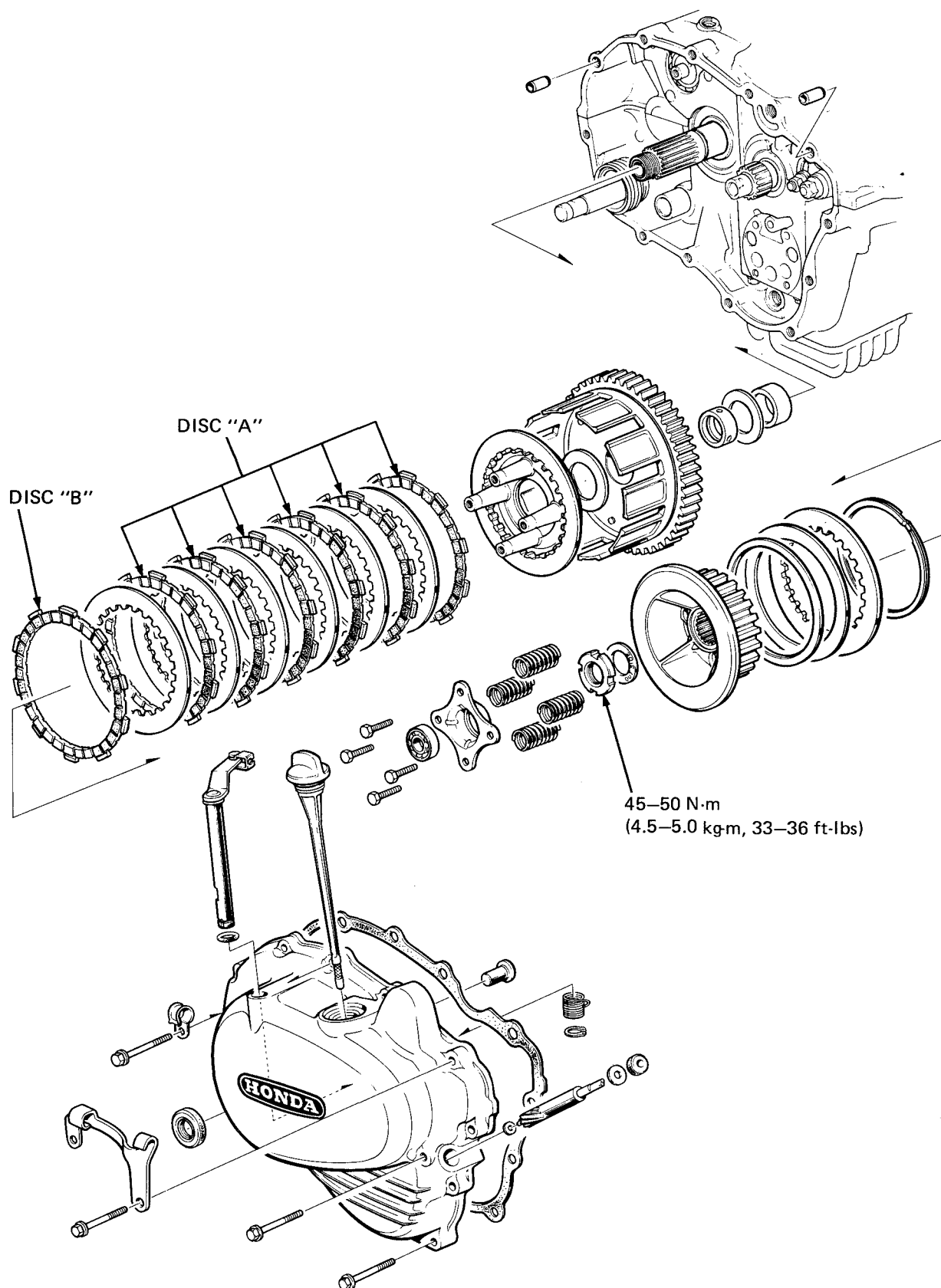
Do not drop the pin or clip into the cylinder.

Install the cylinder head (see Section 6).





M E M O





SERVICE INFORMATION	8-1
TROUBLESHOOTING	8-1
RIGHT CRANKCASE COVER REMOVAL	8-2
CLUTCH	8-2
RIGHT CRANKCASE COVER INSTALLATION	8-9

SERVICE INFORMATION

GENERAL

- This section does not apply to the CM450A.
- This section covers removal and installation of the right crankcase cover and clutch. All these operations can be accomplished with the engine installed.

SPECIFICATIONS

			STANDARD	SERVICE LIMIT
Clutch	Lever free play (at lever end)		10-20 mm (3/8-3/4 in)	_____
	Disc spring-to-clutch center clearance		0.1-0.5 mm (0.004-0.020 in)	_____
	Spring free length		42.5 mm (1.67 in)	41.0 mm (1.61 in)
	Spring preload/length		23.6-26.4 kg/29 mm (52.0-58.2 lbs/1.14 in)	22 kg/29 mm (49 lbs/1.14 in)
	Disc thickness	A	2.7 mm (0.106 in)	2.30 mm (0.090 in)
		B	3.0 mm (0.118 in)	2.60 mm (0.102 in)
	Plate warpage	A	_____	0.20 mm (0.008 in)
		B	_____	0.20 mm (0.008 in)
	Clutch outer I.D.		32.000-32.025 mm (1.2598-1.2608 in)	32.07 mm (1.263 in)
	Clutch outer guide O.D.		31.959-31.975 mm (1.2582-1.2589 in)	31.90 mm (1.256 in)

TOOLS

COMMON

Universal holder	07725-0030000
Lock nut wrench, 26 x 30 mm	07716-0020203

TORQUE VALUE

Clutch lock nut	45-50 N·m (4.5-5.0 kg-m, 33-36 ft-lb)
-----------------	---------------------------------------

TROUBLESHOOTING

Faulty clutch operation can usually be corrected by adjusting the free play.

Clutch slips when accelerating

1. No free play
2. Discs worn
3. Springs weak

Clutch will not disengage

1. Too much free play
2. Plates warped

Motorcycle creeps with clutch disengaged

1. Too much free play
2. Plates warped

Excessive lever pressure

1. Clutch cable kinked, damaged or dirty
2. Lifter mechanism damaged

Clutch operation feels rough

1. Outer drum slots rough



RIGHT CRANKCASE COVER REMOVAL

Drain the engine oil thoroughly.

Disconnect the tachometer cable (except CM450E).

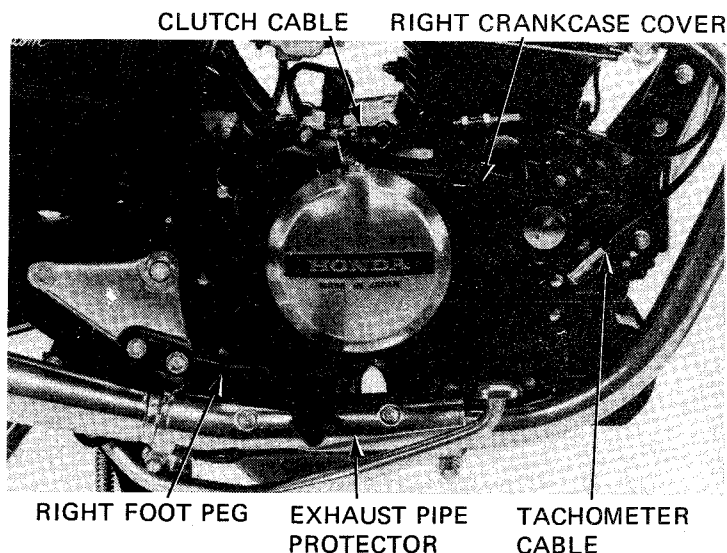
Disconnect the clutch cable at the lower adjuster.

Remove the right foot peg.

Remove the exhaust pipe protector.

Remove the right crankcase cover.

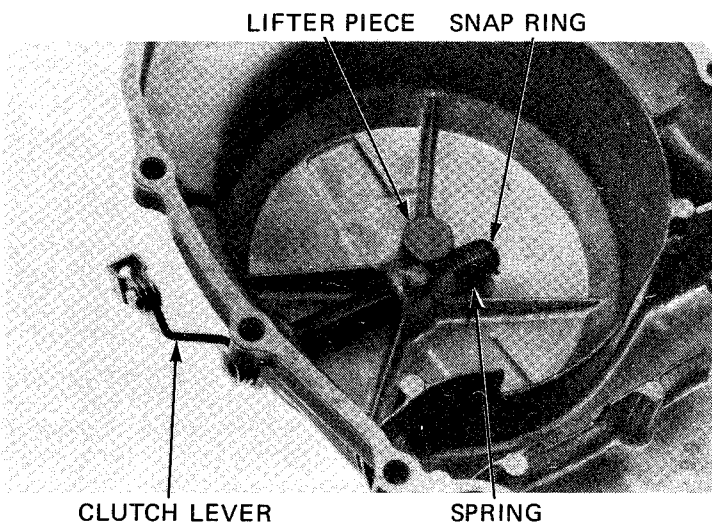
Remove the gasket and dowel pins.



CLUTCH

CLUTCH LIFTER REMOVAL

Remove the lifter piece, snap ring, spring, clutch lever and O-ring.

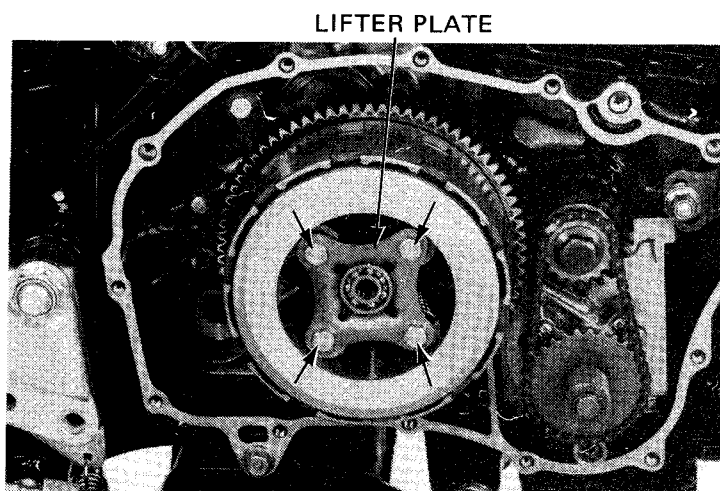


CLUTCH LIFTER PLATE REMOVAL

Remove the bolts, lifter plate and clutch springs.

NOTE

Loosen the bolts in an X pattern in two or more steps.



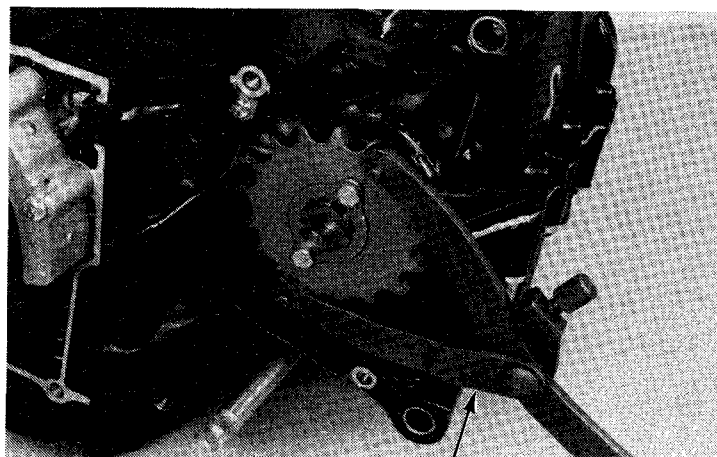


CLUTCH REMOVAL

Remove the drive chain if the engine is still in the frame.

Shift the transmission into gear.

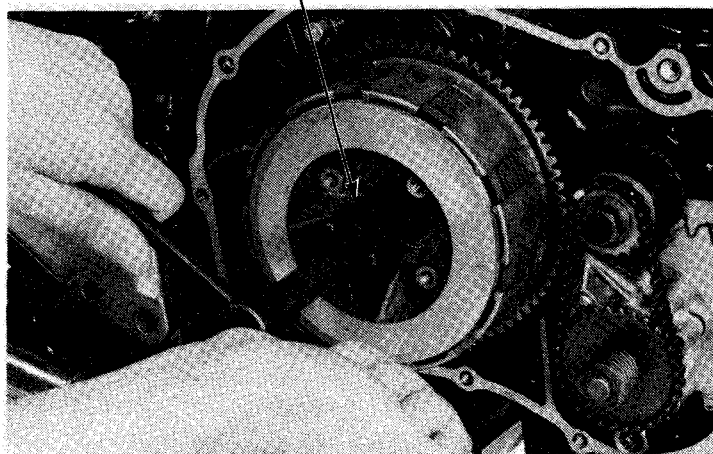
Block the drive sprocket to prevent it from turning.



UNIVERSAL HOLDER

Remove the lock nut and washer. The clutch can then be taken out as a unit.

LOCK NUT WRENCH SOCKET



CLUTCH CENTER, PLATE AND DISC REMOVAL

Remove the clutch center.

Remove discs A and B and plate A.

Remove the pressure plate.

CLUTCH OUTER CLUTCH CENTER

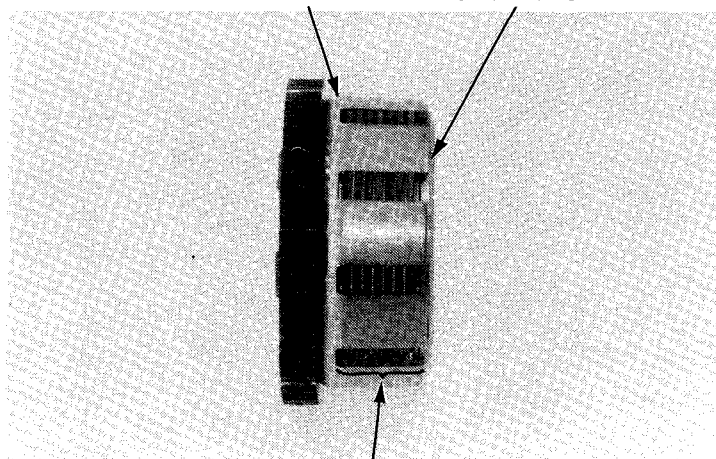


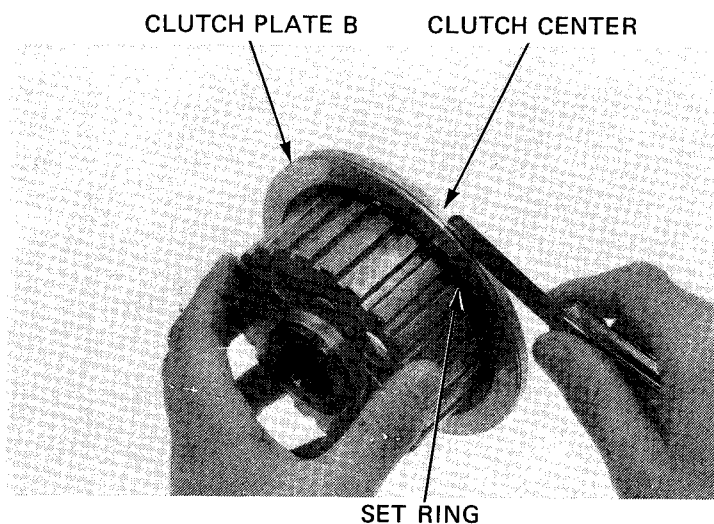
PLATE A, DISC A, B

DISC SPRING INSPECTION

Measure clearance between the clutch center and plate B.

SERVICE LIMIT: 0.1–0.5 mm (0.004–0.020 in)

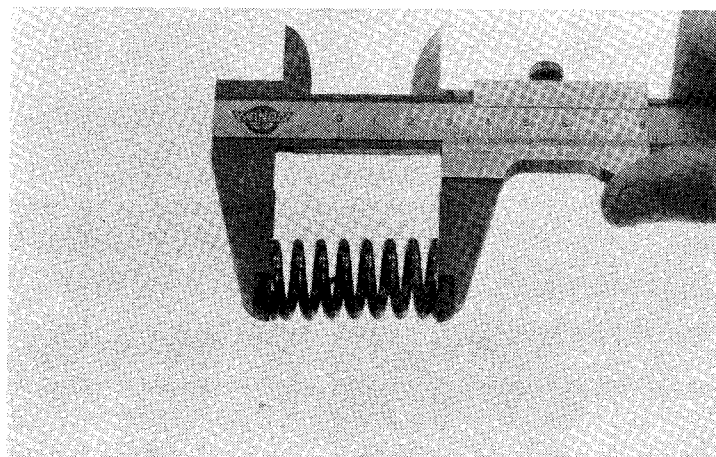
After measuring, remove the set ring, clutch plate B, clutch disc spring and spring seats.



CLUTCH SPRING INSPECTION

Measure the spring free length. Replace the springs as a set if they are less than the service limit.

SERVICE LIMIT: 41.0 mm (1.61 in)



CLUTCH DISC INSPECTION

Replace the clutch discs if they show signs of scoring or discoloration.

Measure disc thickness. Replace the discs as a set if they are less than the service limit.

SERVICE LIMITS: DISC A: 2.30 mm (0.090 in)
DISC B: 2.60 mm (0.102 in)

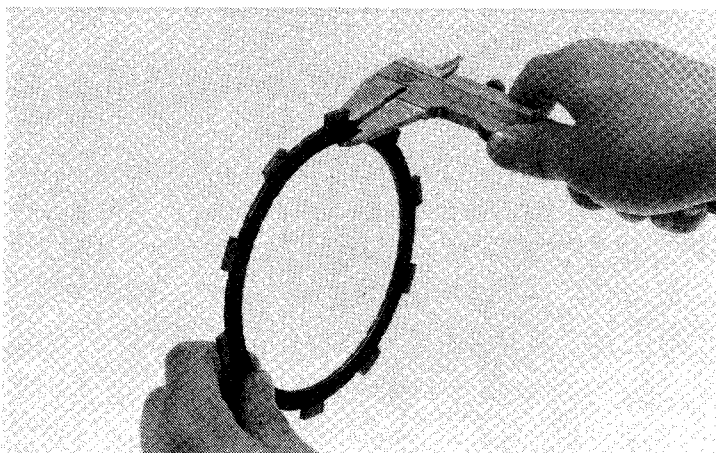
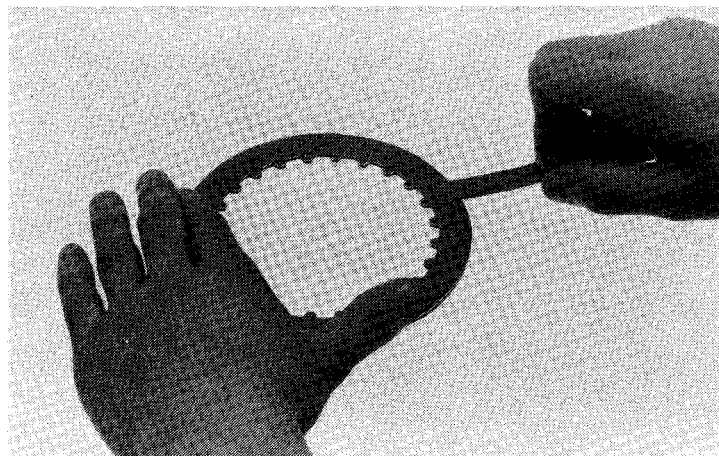




PLATE INSPECTION

Check for plate warpage on a surface plate, using a feeler gauge.

SERVICE LIMIT: 0.20 mm (0.008 in)



CLUTCH OUTER AND OUTER GUIDE INSPECTION

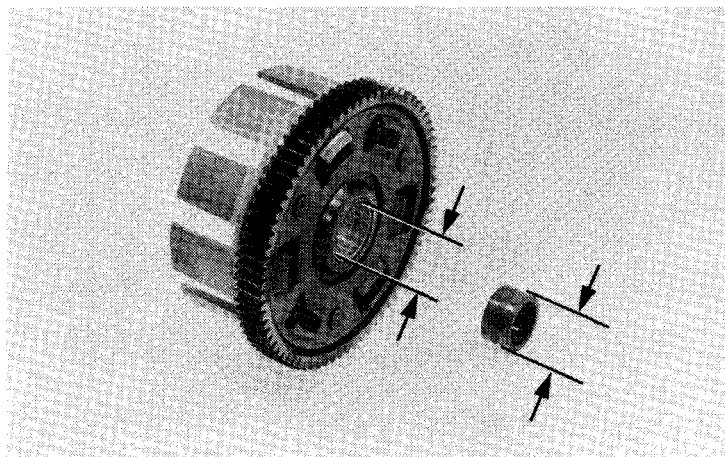
Check the slots in the outer drum for nicks, cuts or indentations made by the friction discs.

Measure the I.D. of the clutch outer and the O.D. of the outer guide.

SERVICE LIMITS:

OUTER I.D.: 32.07 mm (1.263 in)

GUIDE O.D.: 31.90 mm (1.256 in)

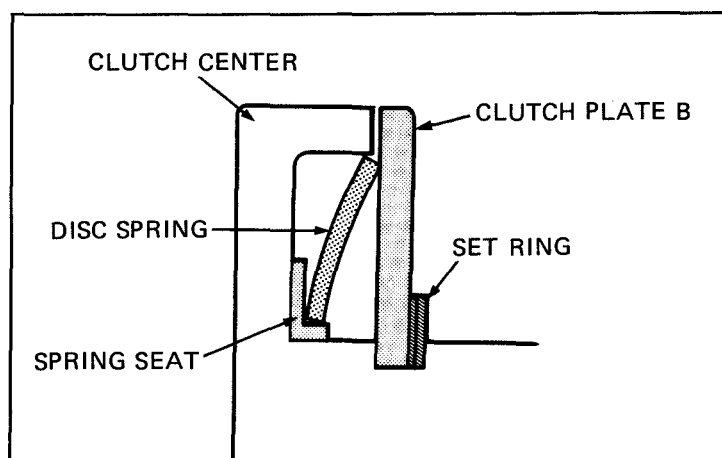


CLUTCH INSTALLATION

Install the spring seat, disc spring, clutch plate B and set ring in the clutch center.

NOTE

- Note the direction of the spring seat, spring and plate B.
- Make sure that the set ring is securely seated in the clutch center groove.

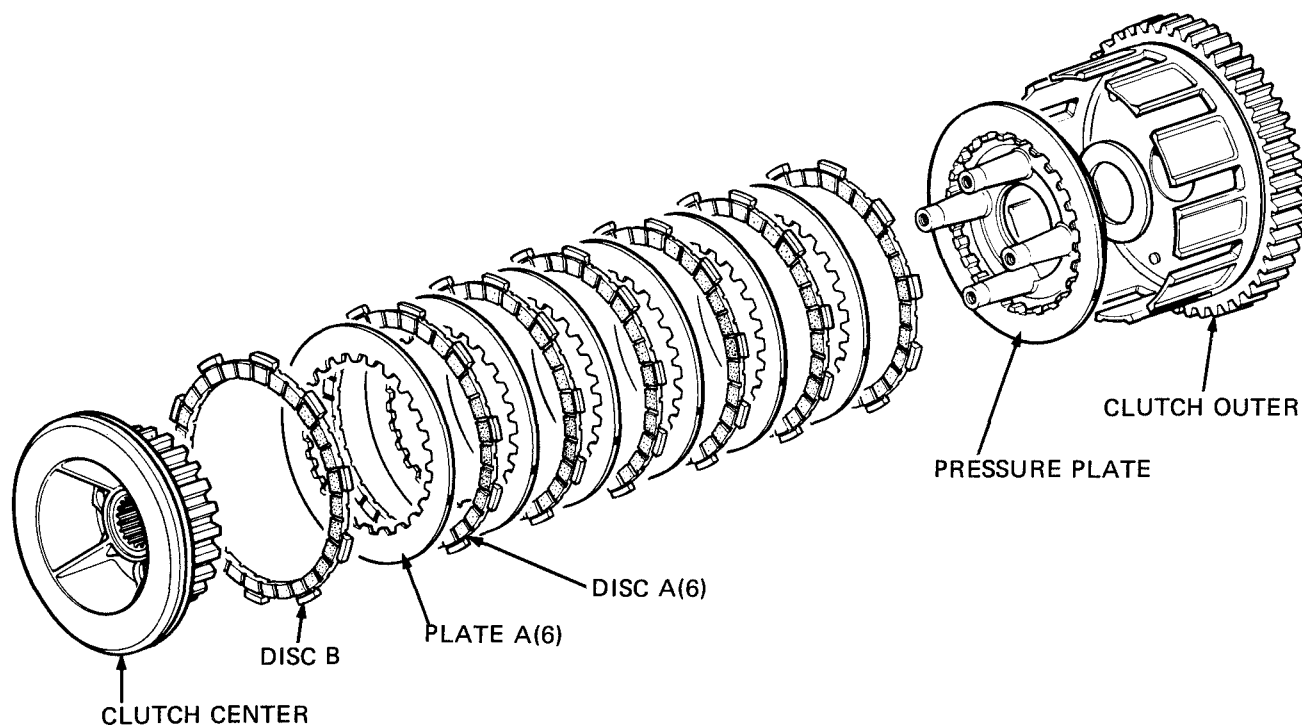




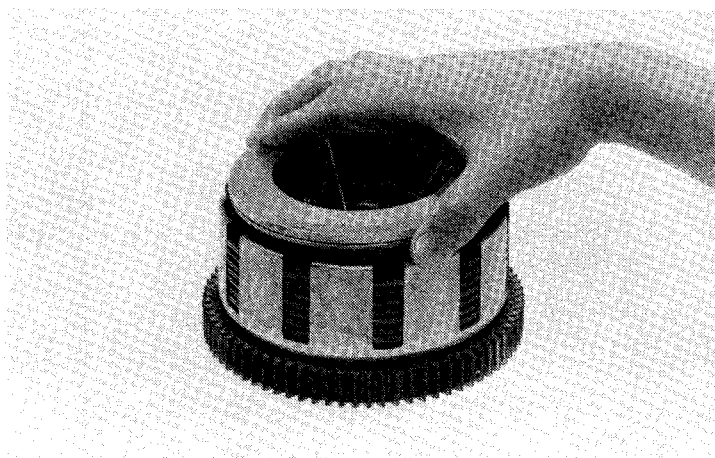
CLUTCH

Install the following parts in the clutch outer in the order listed.

- Pressure plate
- Discs A and plates A (6 each) alternately one after the other
- Disc B
- Clutch center



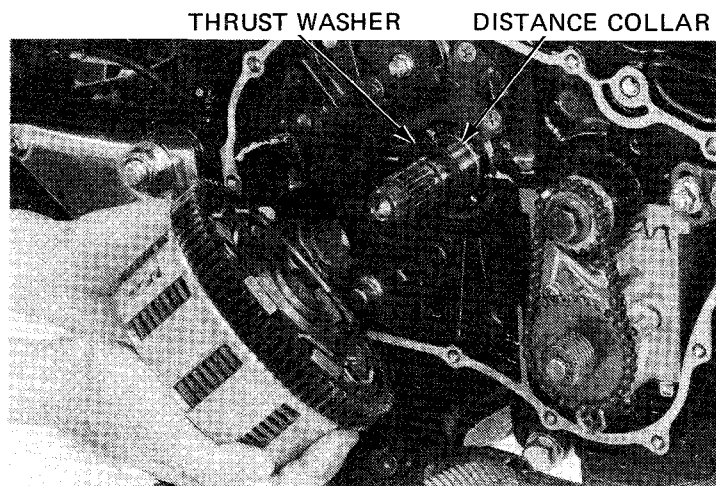
Align the splines by rotating the clutch center.



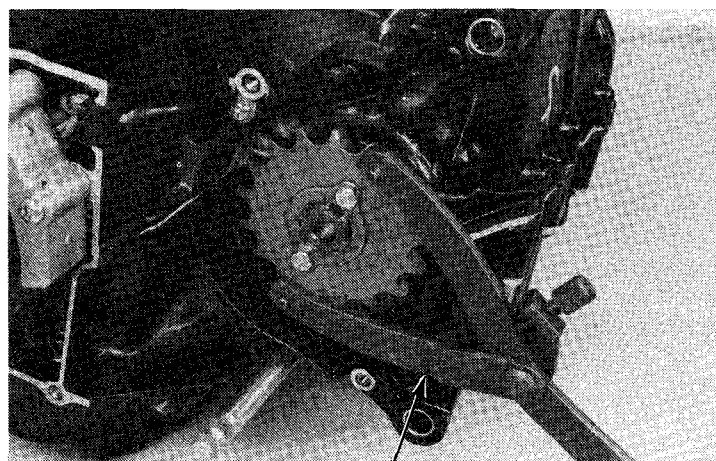


Install the distance collar and thrust washer on the transmission mainshaft.

Install the clutch on the transmission as a unit.



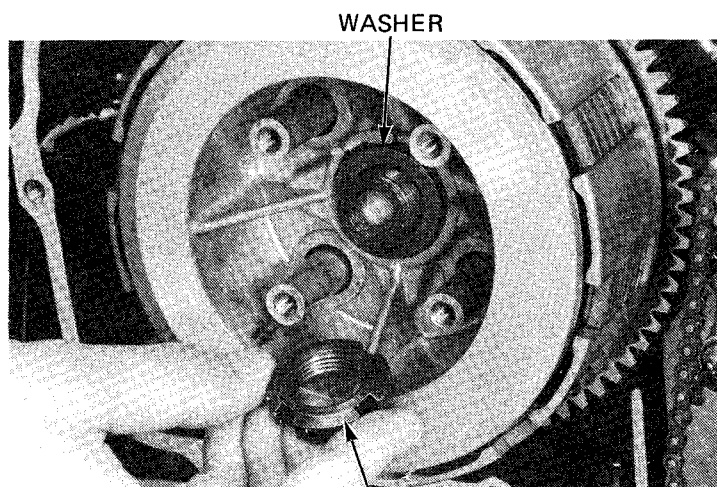
Apply the universal holder to the drive sprocket.



UNIVERSAL HOLDER

Install the plain washer with the "OUTSIDE" mark facing out.

Install the lock nut with the chamfered side facing in.



LOCK NUT

CLUTCH

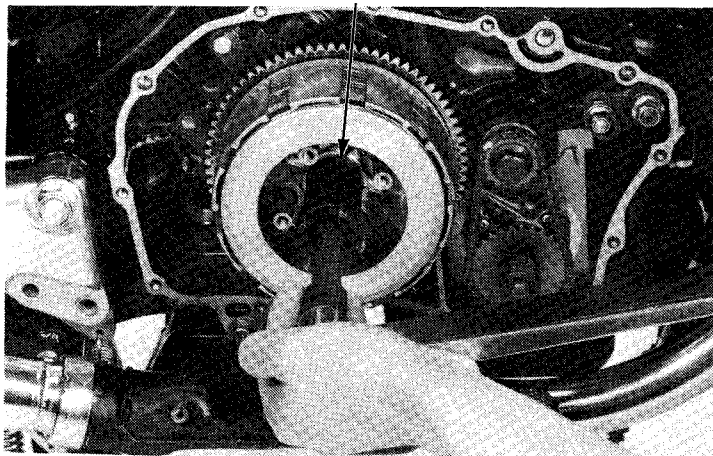


HONDA
CB/CM450'S

Tighten the lock nut to the specified torque.

TORQUE: 45–50 N.m (4.5–5.0 kg-m, 33–36 ft-lb)

LOCK NUT WRENCH

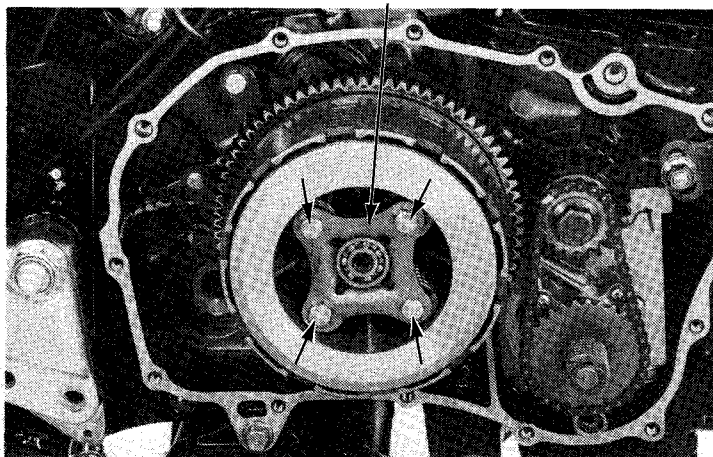


Install the clutch springs, lifter plate and lifter plate bolts.

NOTE

Tighten the bolts in two or more steps and in a criss cross pattern.

LIFTER PLATE

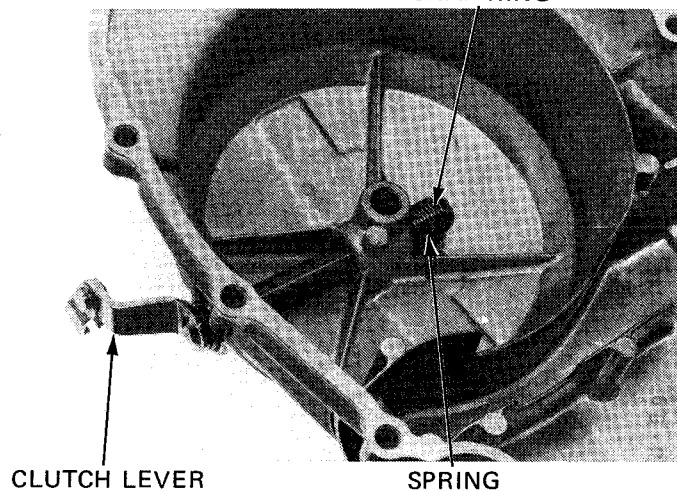


CLUTCH LIFTER AND RIGHT CRANKCASE COVER INSTALLATION

Install the O-ring on the clutch lever.

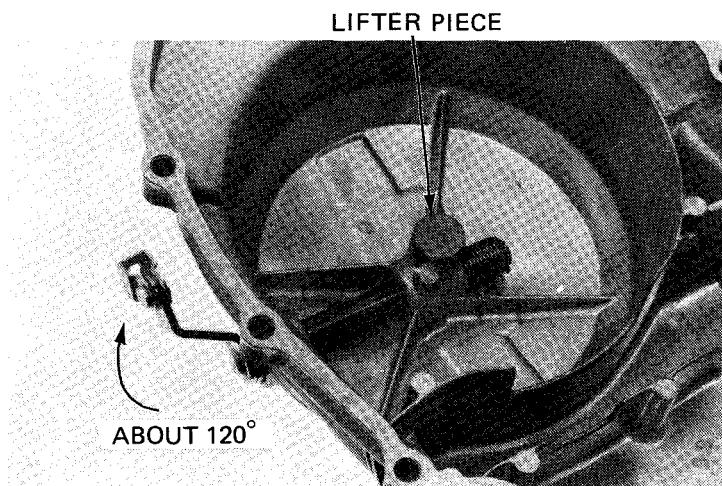
Install the clutch lever on the crankcase.
Secure the lever with the spring and snap ring.

SNAP RING



Rotate the lever about 120 degrees.

Install the lifter piece by aligning the holes.



RIGHT CRANKCASE COVER INSTALLATION

Install the dowel pins in position.

Install the right crankcase cover with a new gasket.

Install the exhaust pipe protector.

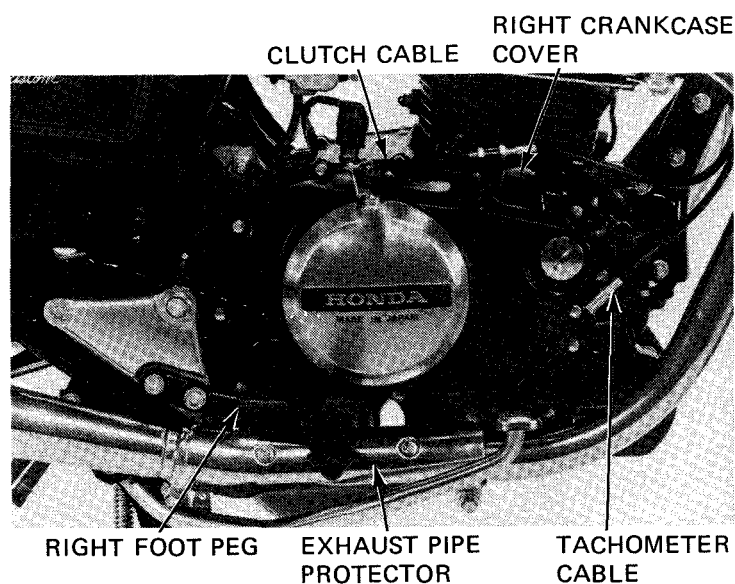
Install the right foot peg.

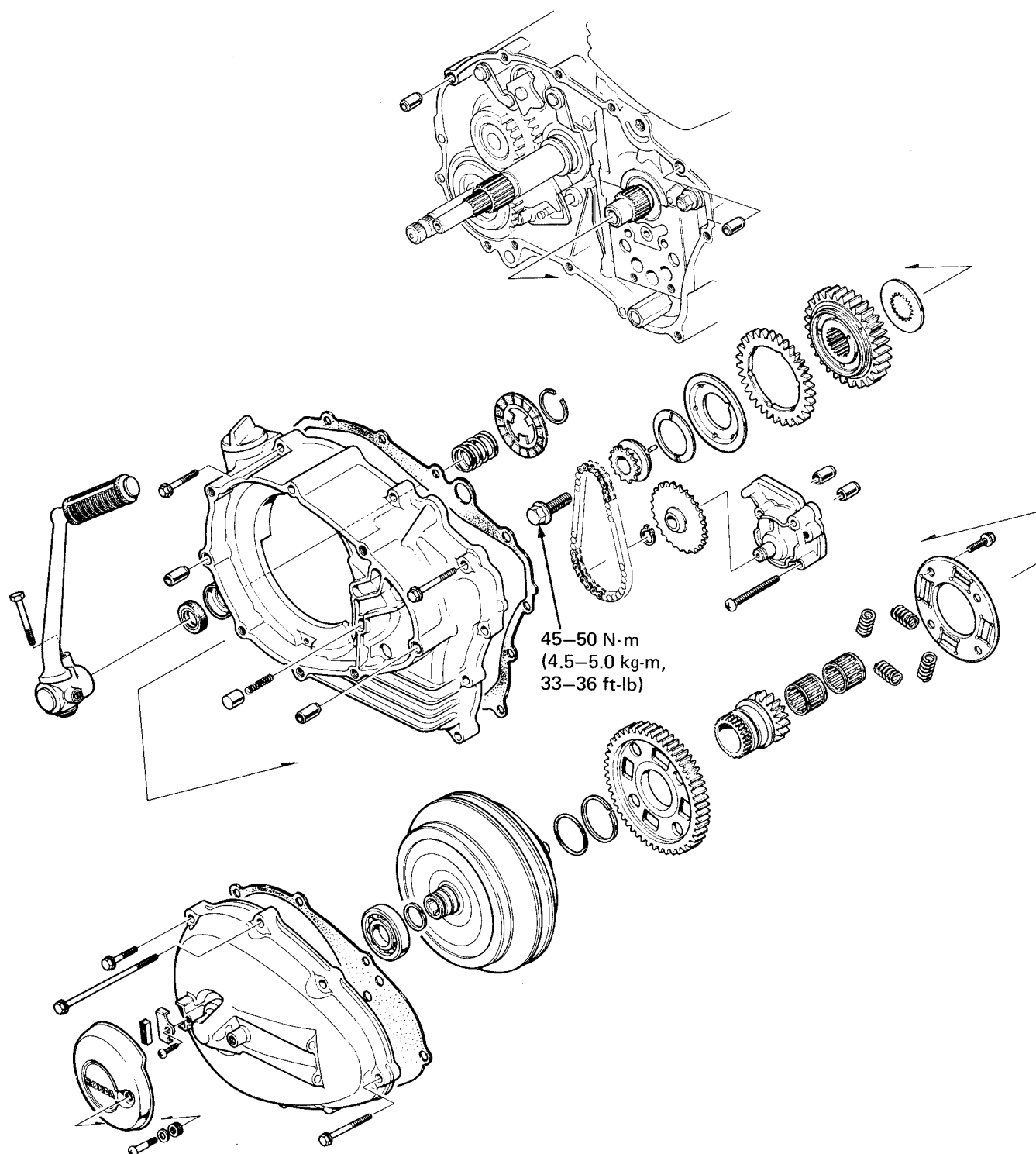
Connect the clutch cable.

Connect the tachometer (except CM450E).

Adjust the clutch (page 3-24).

Fill the crankcase with recommended oil up to the proper level (page 2-3).







SERVICE INFORMATION	9-1
TROUBLESHOOTING	9-2
TORQUE CONVERTER REMOVAL	9-3
PRIMARY DRIVEN GEAR DISASSEMBLY	9-5
TORQUE CONVERTER CHECK VALVE	9-6
RIGHT CRANKCASE COVER REMOVAL	9-6
PRIMARY DRIVE GEAR REMOVAL	9-6
PRIMARY DRIVE GEAR INSTALLATION	9-7
RIGHT CRANKCASE COVER INSTALLATION	9-8
PRIMARY DRIVEN GEAR INSTALLATION	9-9
TORQUE CONVERTER INSTALLATION	9-10
STALL RPM MEASUREMENT	9-11

SERVICE INFORMATION

GENERAL

- This section applies only to the CM450A.
- This section covers removal and installation of the torque converter, right crankcase cover and primary drive gear. All these operations can be accomplished with the engine installed in the motorcycle.
- The torque converter acts as a hydraulic torque multiplier and a fluid coupling. Oil flow is from the oil pan, through the oil passage in the torque converter case, to the torque converter, to the check valve via the oil passage in the torque converter case, and back to the oil pan.
- When servicing the torque converter, inspect the oil passages and check valve for clogging or any other faulty condition.

SPECIFICATIONS

		STANDARD	SERVICE LIMIT
Stall RPM		3,550–3,850 rpm	3,400 rpm
Main shaft O.D. (at end)		12.966–12.984 mm (0.5105–0.5112 in)	12.96 mm (0.510 in)
Stator shaft O.D.		24.974–24.993 mm (0.9832–0.9840 in)	24.97 mm (0.983 in)
Torque converter case I.D.		13.000–13.018 mm (0.5118–0.5125 in)	13.04 mm (0.513 in)
Kick starter driven gear I.D.		30.000–30.021 mm (1.1811–1.1819 in)	30.03 mm (1.182 in)
Damper spring	Free length	18.0 mm (0.71 in)	16.0 mm (0.63 in)
	Tension	20.5–25.5 kg/15.0 mm (45.2–56.2 lbs/0.591 in)	18 kg/15.0 mm (40 lbs/0.591 in)
Check valve spring	Free length	18.5 mm (0.73 in)	16.7 mm (0.66 in)
	Tension	0.745–0.761 kg/12 mm (1.64–1.68 lbs/0.472 in)	0.67 kg/12 mm (1.48 lbs/0.472 in)
Main shaft-to-torque converter case clearance		0.007–0.022 mm (0.0003–0.0009 in)	0.08 mm (0.003 in)



CM450A: TORQUE CONVERTER

TOOLS

COMMON

Universal holder

07725-0030000

TORQUE VALUE

Primary drive gear

45-50 N·m (4.5-5.0 kg-m, 33-36 ft-lb)

TROUBLESHOOTING

Engine runs, but motorcycle does not move in 1st and 2nd:

1. No or too little oil in oil pan
2. Torque converter check valve not installed
3. Torque converter check valve stuck open or weak or damaged check valve spring
4. Clogged oil passage
5. Oil pump drive chain broken
6. Faulty oil pump
7. Damaged primary drive and/or driven gear
8. Torque converter pump flange or 6 mm rivets broken

Poor acceleration when shifting into 1st and 2nd:

1. Torque converter 2.5 mm inlet orifice clogged
2. Torque converter check valve stuck open or weak or broken check valve spring
3. Burnt or seized primary drive and/or driven gear or stator shaft
4. Stator slipping

Poor acceleration at high speed (slippage at high speed)

1. Oil level too high
2. Torque converter one-way clutch seized

Poor acceleration at low speed (good acceleration at high speed):

1. Torque converter one-way clutch slipping

Poor acceleration at both speed ranges:

1. Damaged one-way clutch roller spring or cam



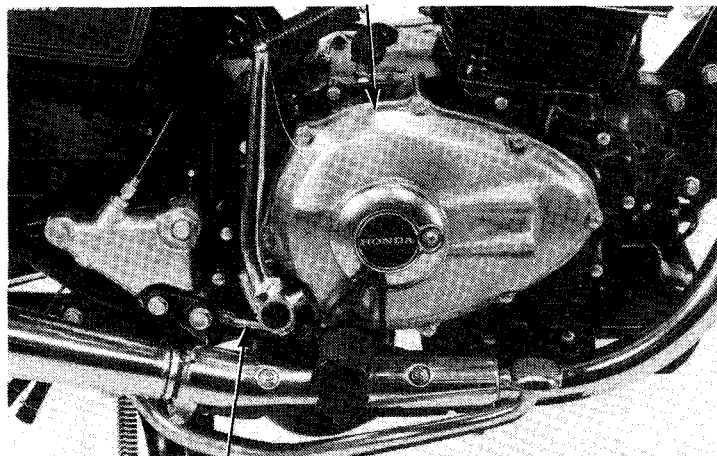
TORQUE CONVERTER REMOVAL

Drain the oil thoroughly.

Remove the right foot peg.

Remove the torque converter case.

TORQUE CONVERTER CASE



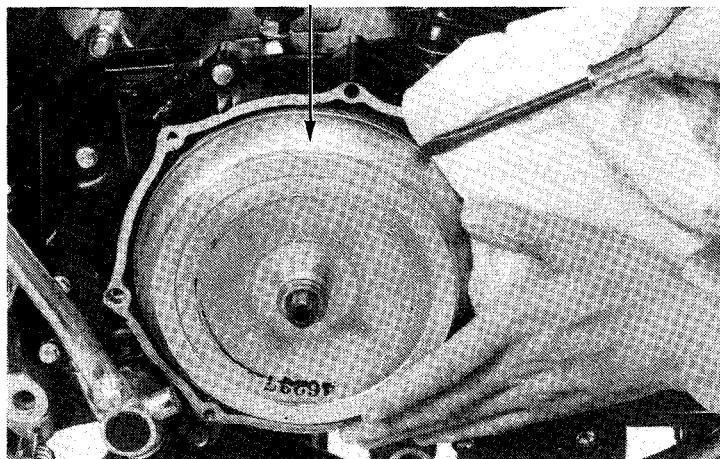
RIGHT FOOT PEG

Remove the torque converter by applying a screwdriver blade to the groove in its periphery.

NOTE

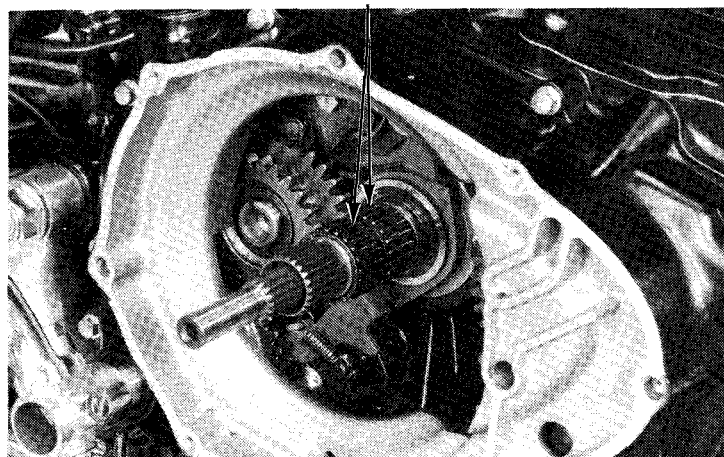
Use care not to damage the gasket surface of the crankcase.

TORQUE CONVERTER



NEEDLE ROLLER BEARINGS

Remove the needle roller bearings. Check them for wear, damage or other defects.

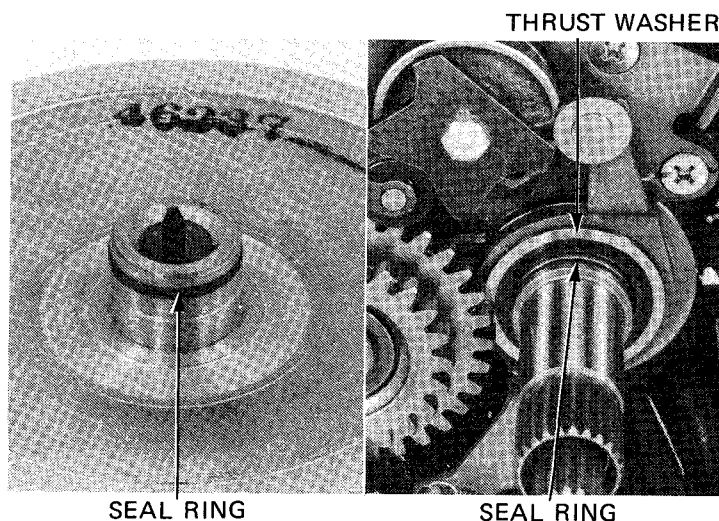


SEAL RING AND THRUST WASHER INSPECTION

Inspect the seal ring and thrust washer for wear or damage.

NOTE

Remove the kick starter idle gear to remove the thrust washer (Section 11).



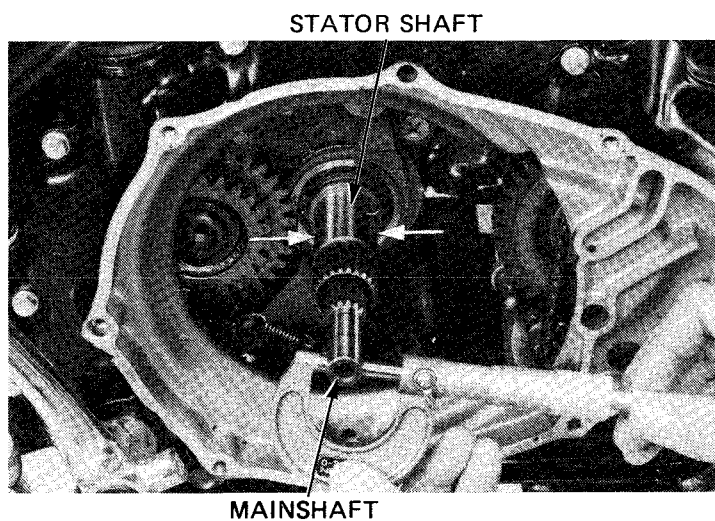
MAINSHAFT AND STATOR SHAFT INSPECTION

Check the stator shaft needle roller bearing contacting area for damage or other defects.
Measure the mainshaft end O.D.

SERVICE LIMIT: 12.96 mm (0.510 in)

Measure the stator shaft needle roller bearing contacting area O.D.

SERVICE LIMIT: 24.97 mm (0.983 in)



TORQUE CONVERTER CASE INSPECTION

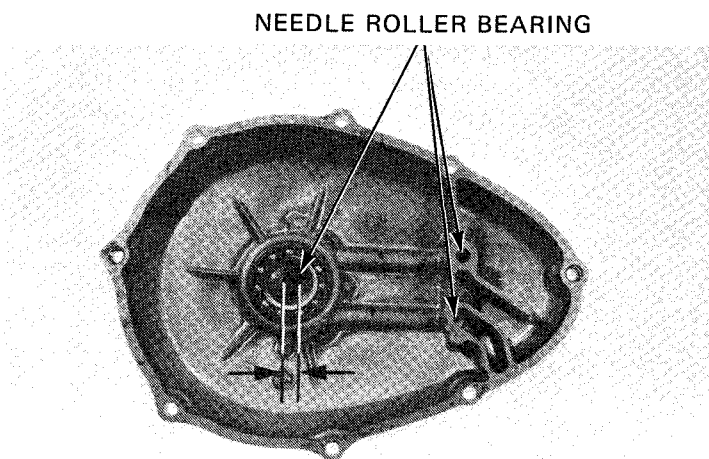
Measure the torque converter case I.D.

SERVICE LIMIT: 13.04 mm (0.513 in)

Determine the mainshaft-to-torque converter case clearance.

SERVICE LIMIT: 0.08 mm (0.003 in)

Check the oil passages for clogging.

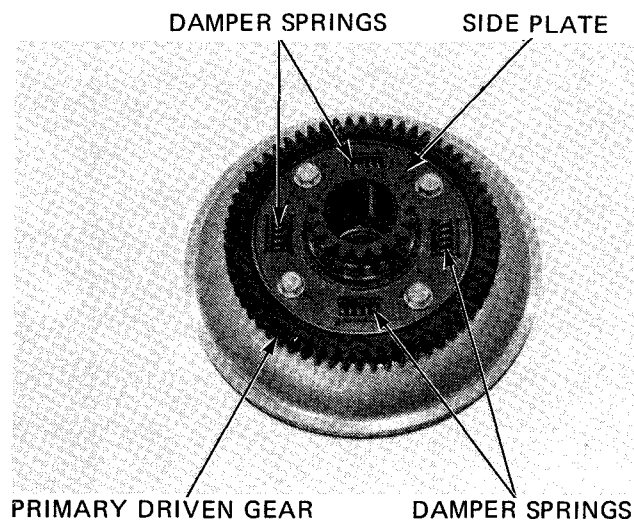




PRIMARY DRIVEN GEAR DISASSEMBLY

Remove the 6 mm bolts.

Remove the side plate, damper springs and primary driven gear.



Pry off the snap ring and remove the kick starter driven gear.

Remove the O-ring.

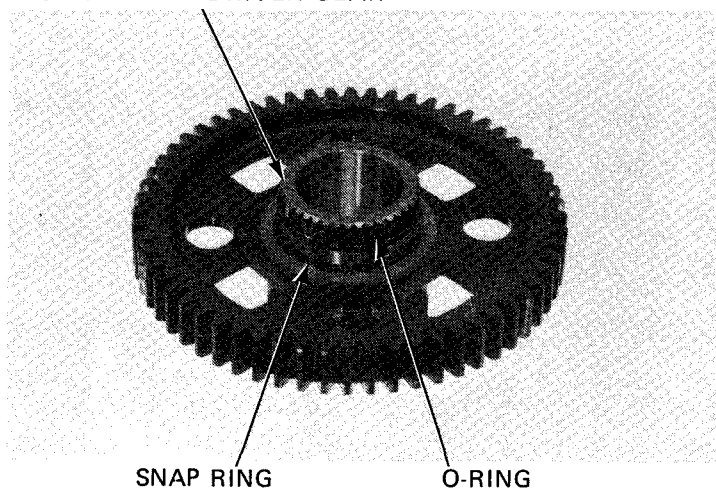
KICK STARTER DRIVEN GEAR INSPECTION

Check the kick starter driven gear for damage or other faults.

Measure the kick starter driven gear I.D.

SERVICE LIMIT: 30.03 mm (1.182 in)

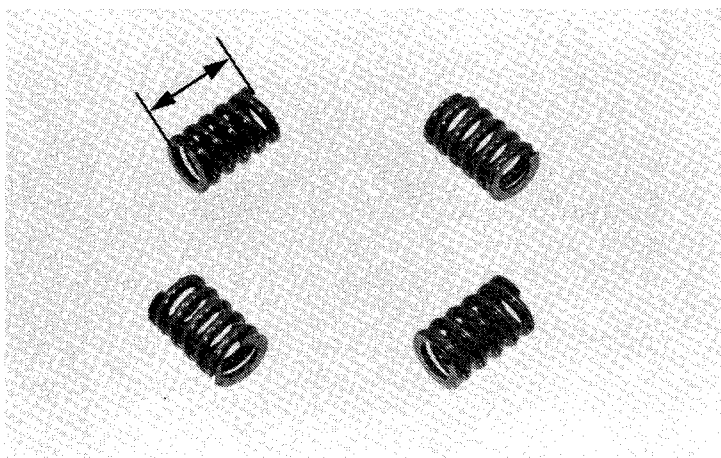
KICK STARTER DRIVEN GEAR



DAMPER SPRING INSPECTION

Check the free length of the damper springs. Check for evidence of damage or other faults.

SERVICE LIMIT: 16.0 mm (0.63 in)



TORQUE CONVERTER CHECK VALVE

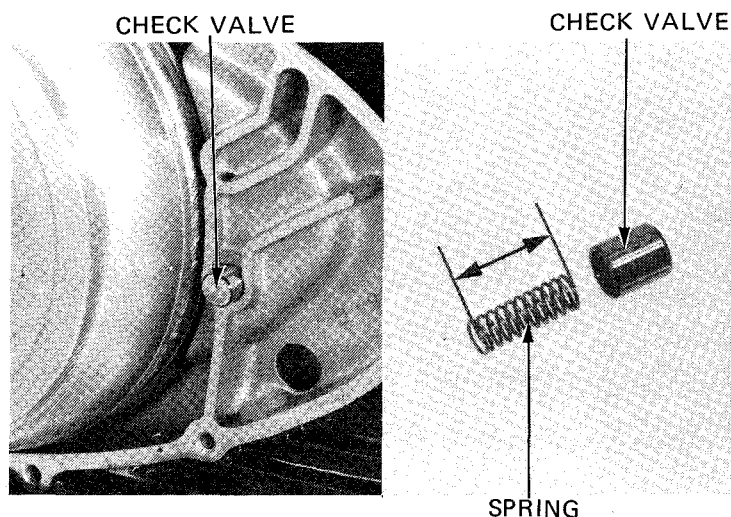
Remove the check valve and valve spring.

INSPECTION

Examine the valve body for scores or scratches.
Check the spring for weakened tension.

Measure the spring free length.

SERVICE LIMIT: 16.7 mm (0.66 in)

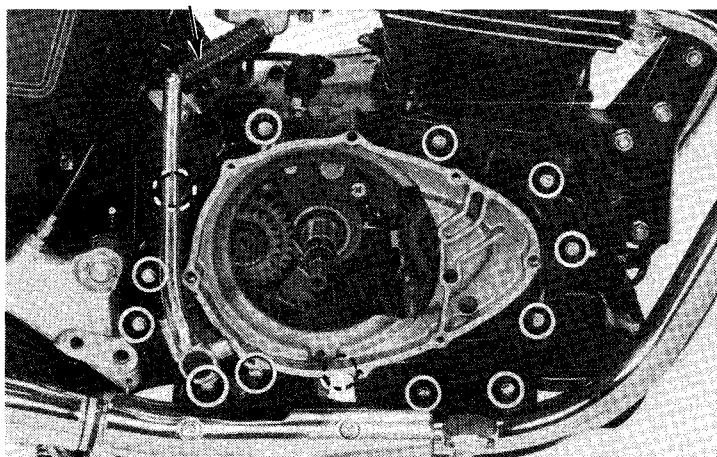


RIGHT CRANKCASE COVER REMOVAL

Remove the kick starter arm.

Unscrew the thirteen 6 mm bolts and remove the right crankcase cover.

KICK STARTER ARM



PRIMARY DRIVE GEAR REMOVAL

Remove the right crankcase cover.

Set up the tool "UNIVERSAL HOLDER (07725-0030000)" to prevent the alternator rotor from turning.

Remove the bolt securing the primary drive gear to the crankshaft.

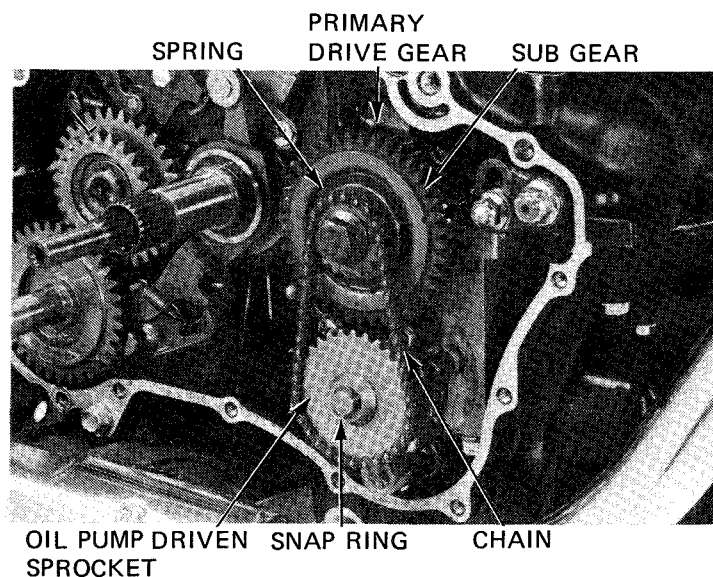
Pry off the snap ring.

Remove the chain, sprockets, sub gear spring, sub gear plate, sub gear, primary drive gear and thrust washer.

INSPECTION

Check the gears and thrust washer for signs of wear or damage.

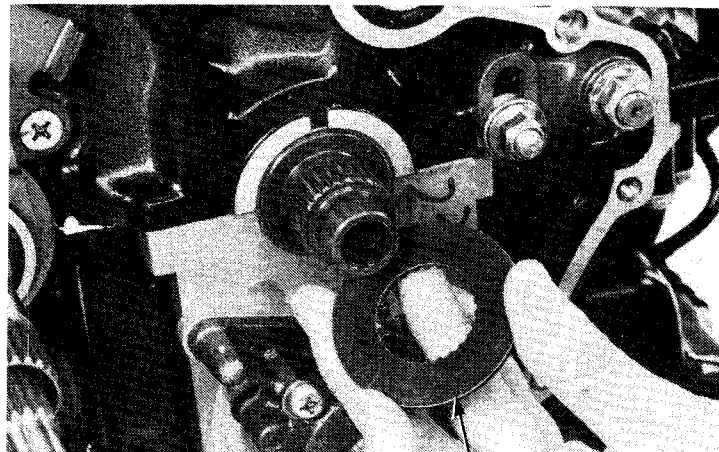
Check the sub gear spring for weakened tension.





PRIMARY DRIVE GEAR INSTALLTION

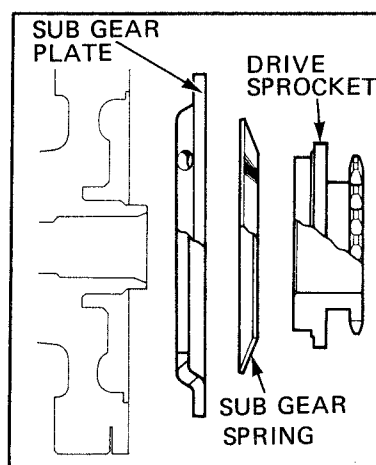
Install the thrust washer on the crankshaft with the chamfered end inside.



THRUST WASHER

Install the sub gear spring on the oil pump drive sprocket as shown.

Align the dowel holes and install the drive sprocket on the sub gear plate.



DOWEL HOLES

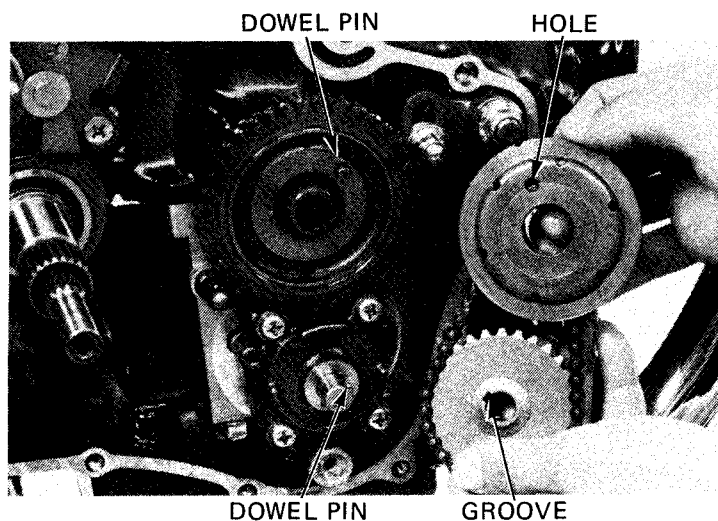
Install the primary drive gear and sub gear.

Press the dowel pin into place in the drive gear.

Align the pin with the holes in the drive sprocket and sub gear plate.

Align the dowel pin on the pump shaft with the dowel groove in the driven sprocket.

Install the drive sprocket, driven sprocket and chain at the same time.



DOWEL PIN

HOLE

DOWEL PIN

GROOVE

Install the snap ring.

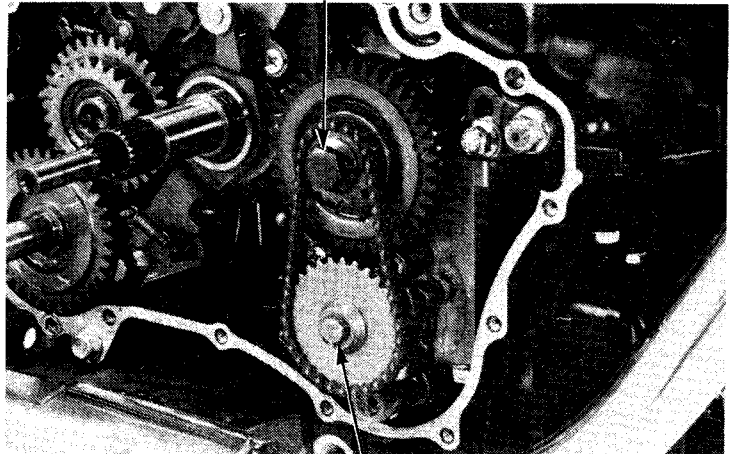
Tighten the 12 mm flange bolt to the specified torque.

TORQUE: 45–50 N.m (4.5–5.0 kg-m, 33–36 ft-lb)

NOTE

Use the tool "UNIVERSAL HOLDER (07725–0030000)" to prevent the alternator rotor from turning when the bolt is tightened.

12 mm FLANGE BOLT

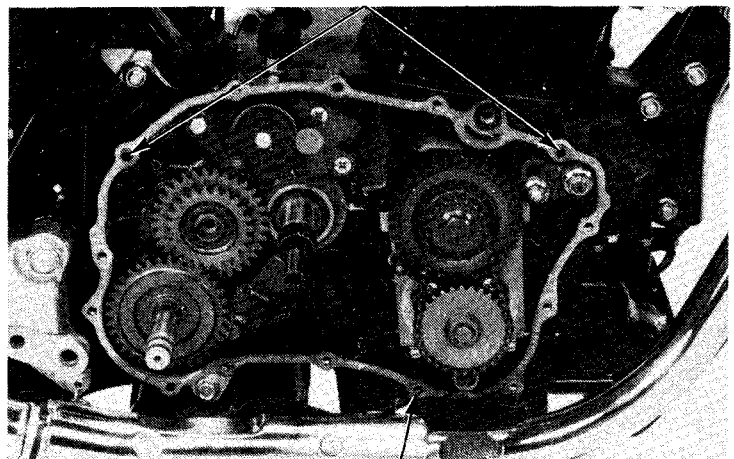


SNAP RING

RIGHT CRANKCASE COVER INSTALLATION

Place the gasket on the engine block and press the two dowel pins into place.

DOWEL PINS



GASKET

Press the O-ring into place in the crankcase cover ring groove as shown.

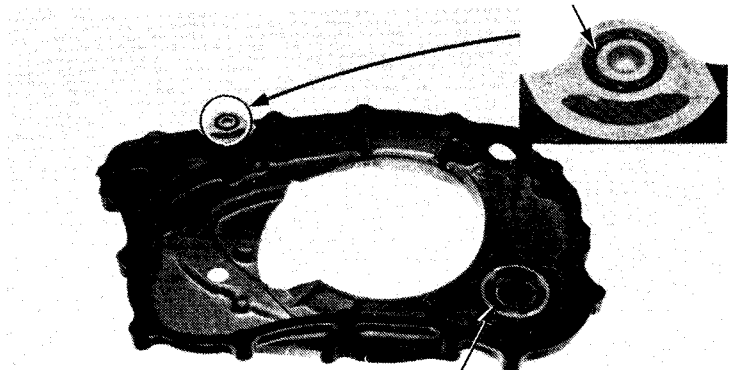
NOTE

Check the kick starter friction disc for proper installation (Section 11).

Install the right crankcase cover.

Install the kick starter arm.

O-RING



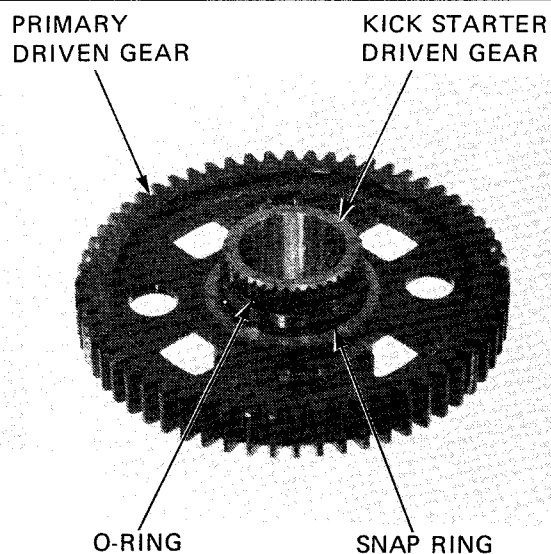
KICK STARTER FRICTION DISC



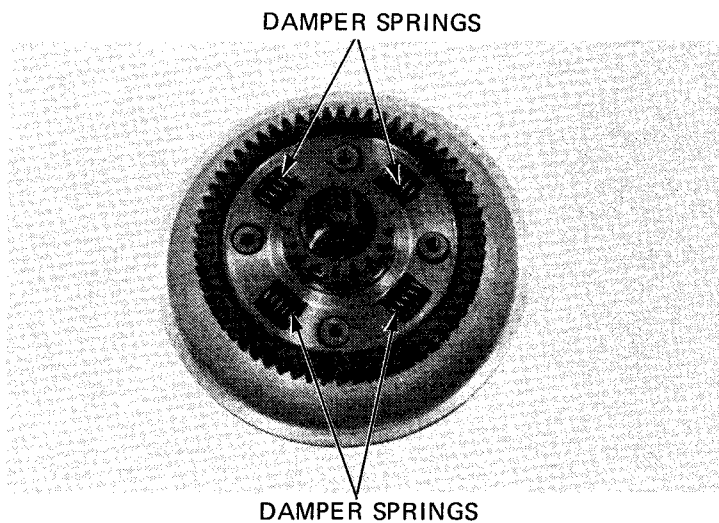
PRIMARY DRIVEN GEAR INSTALLATION

Install the kick starter driven gear in the primary driven gear.

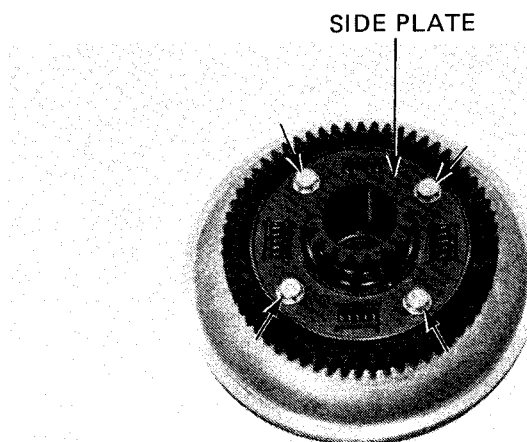
Install the snap ring and the O-ring.



Install the driven gear and damper springs in the torque converter. Check that each spring is seated properly.



Install the side plate with four 6 mm bolts.





TORQUE CONVERTER INSTALLATION

Put the needle roller bearings on the stator shaft.

Install the torque converter in the following sequence:

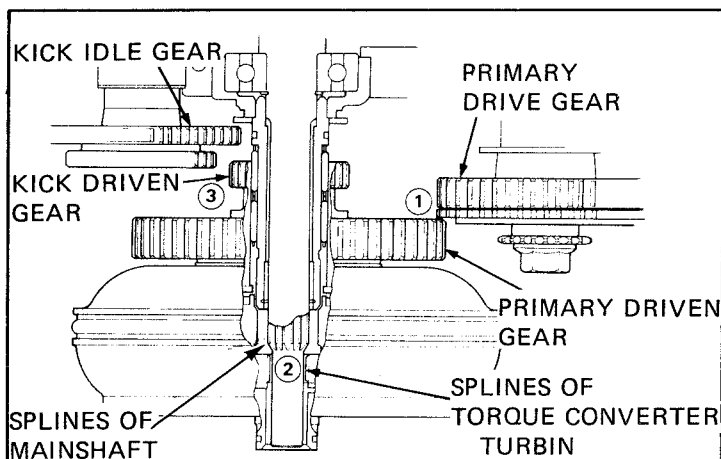
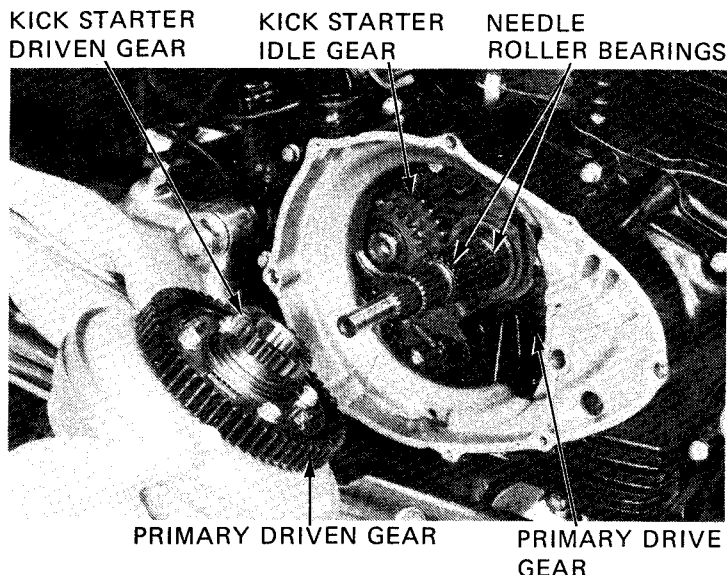
1. Engage the primary driven and drive gears together.
2. Set the transmission in 1st or 2nd gear, then align the splines of the main shaft with those of the torque converter turbine by rotating the rear wheel by hand.
3. Engage the kick starter driven gear with the kick idle gear while slowly operating the kick starter pedal.

NOTE

Do not damage the seal rings during operation.

WARNING

When installing the torque converter, use care not to pinch your fingers between it and the crankcase.

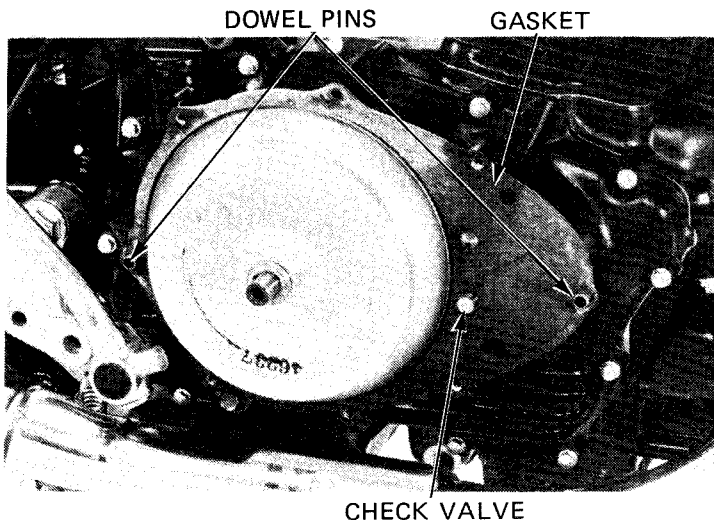


Place the gasket on the crankcase and press the two dowel pins into their respective positions.

NOTE

- Check that the torque converter check valve is installed.
- Clean all passages in the torque converter case with solvent before installation.

Pour the specified amount of oil into the engine through the oil filler opening.





STALL RPM MEASUREMENT

Place the motorcycle on the center stand and apply the parking brake.

Warm up the engine until its RPM stabilizes. Then, stop the engine.

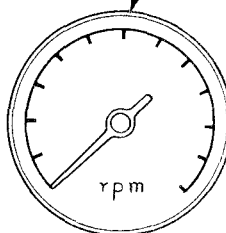
Connect a tachometer and restart the engine. Shift the transmission into "1".

With the rear brake pedal held down securely, open the throttle fully. Note the engine RPM indicated on the tachometer.

NOTE

- Use both the foot and parking brakes to make this test. Use of the parking brake alone will allow the rear wheel to rotate, resulting in damage to the brake shoes.
- Do not keep the grip at full throttle for more than 10 seconds at a time.
- Do not change gears with the engine running.

STANDARD: 3,550–3,850 rpm
LIMIT: 3,400 rpm

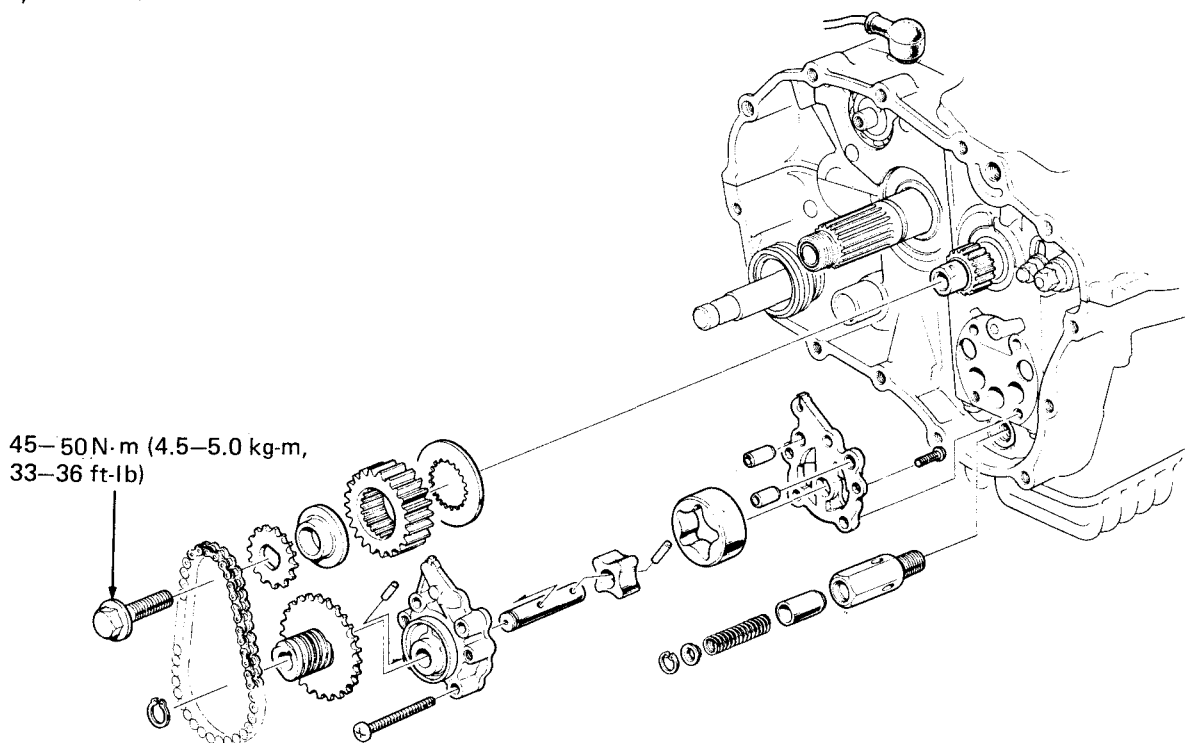


OIL PUMP

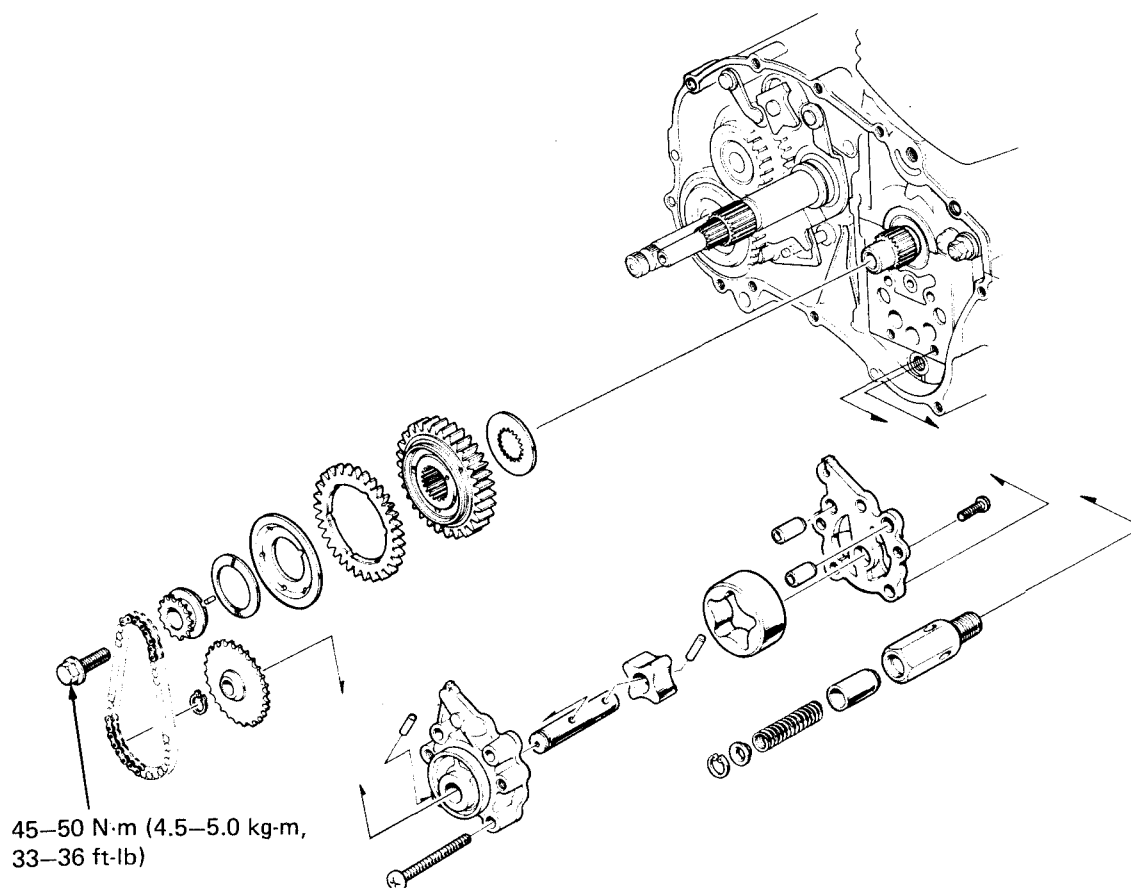


HONDA
CB/CM450'S

CB450T, CM450C/E



CM450A





SERVICE INFORMATION	10-1
OIL PUMP REMOVAL	10-2
OIL PUMP DISASSEMBLY	10-2
OIL PUMP INSPECTION	10-3
OIL PUMP ASSEMBLY	10-4
OIL PUMP INSTALLATION	10-5
OIL PRESSURE RELIEF VALVE	10-6

SERVICE INFORMATION

GENERAL

This section covers removal and installation of the oil pump and relief valve. All these operations can be done with the engine installed in the frame.

10

SPECIFICATIONS

		STANDARD	SERVICE LIMIT
Oil pump	Inner rotor-to-outer rotor clearance	_____	0.10 mm (0.004 in)
	Outer rotor-to-body clearance	_____	0.35 mm (0.014 in)
	Rotor-to-body clearance	_____	0.10 mm (0.004 in)
Oil pressure relief valve	Relief pressure	392–520 kPa (4.0–5.3 kg/cm ² , 60–75 psi)	_____

TOOL

COMMON

Universal holder

07725-0030000

TORQUE VALUE

Drive gear

45–50 N·m (4.5–5.0 kg-m, 33–36 ft-lb)

OIL PUMP REMOVAL

CB450T, CM450C/E

Remove the right crankcase cover (see page 8-2).

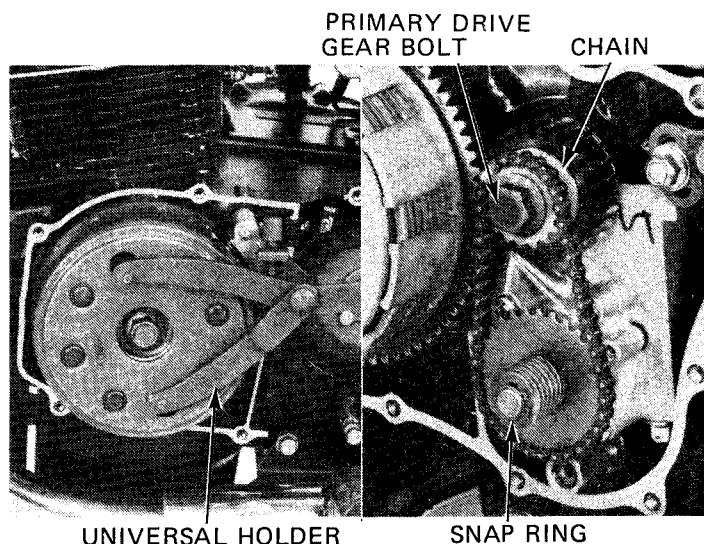
Remove the left crankcase cover.

Hold the alternator rotor with a universal holder.

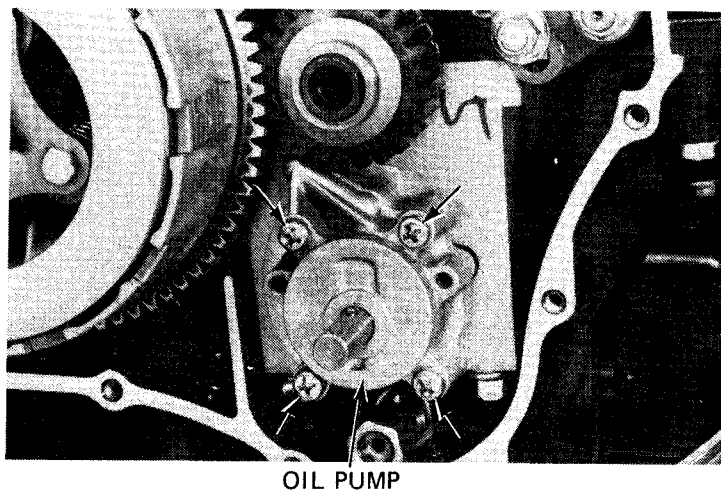
Remove the primary drive gear bolt.

Remove the snap ring.

Remove the sprockets and chain.



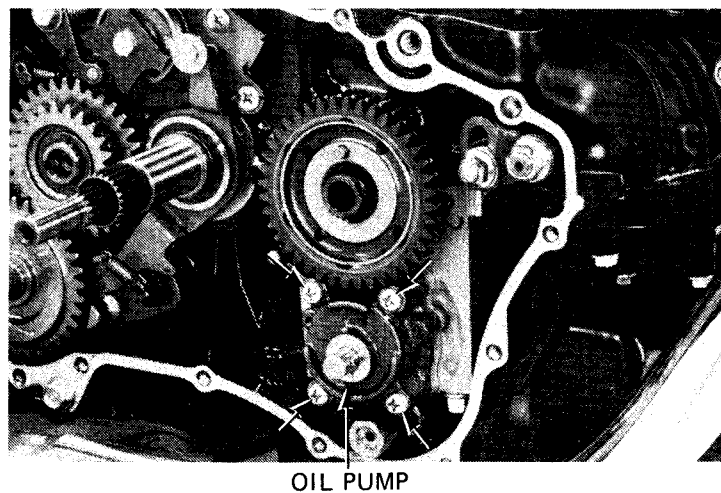
Remove the oil pump.



CM450A

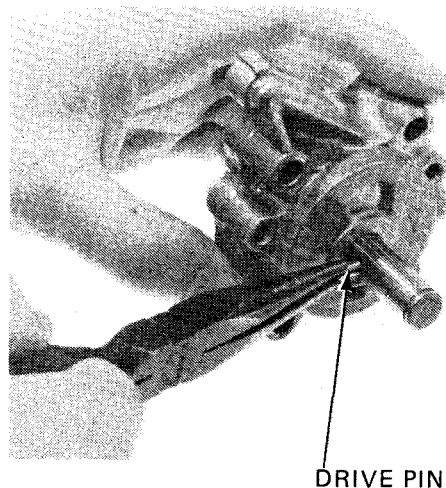
Remove the chain sprockets (see page 9-6).

Remove the oil pump.



OIL PUMP DISASSEMBLY

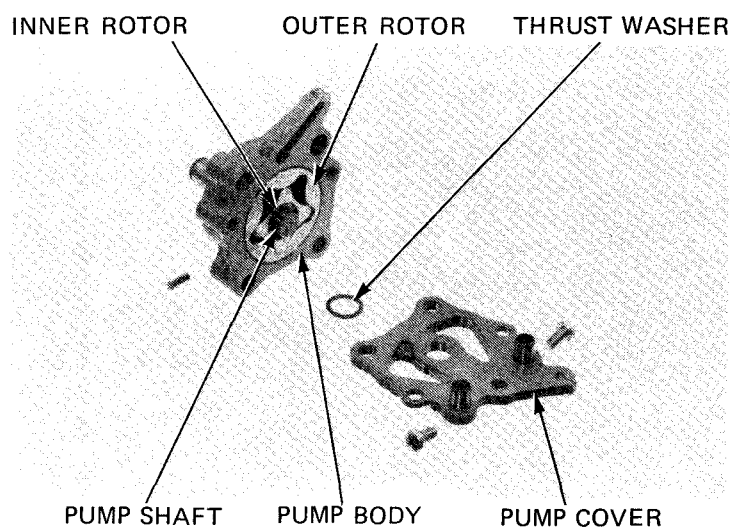
Pull out the drive pin.



Remove the oil pump cover and thrust washer.

Withdraw the oil pump shaft.

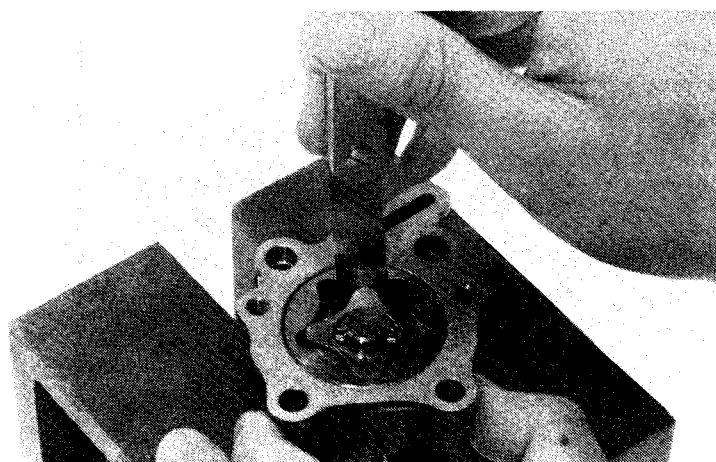
Remove the inner and outer rotors from the pump body.



OIL PUMP INSPECTION

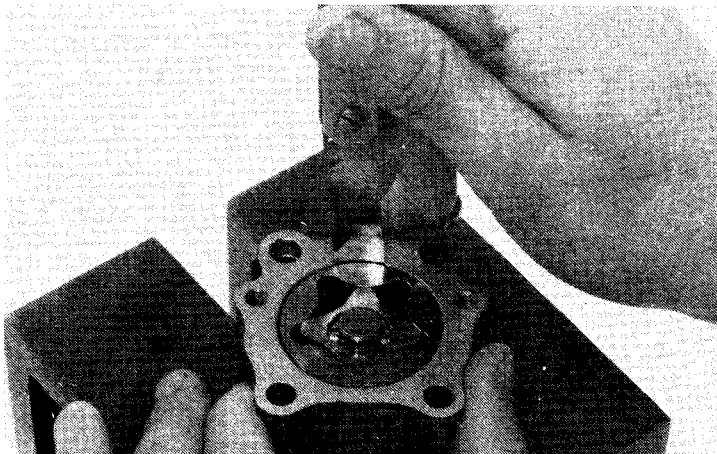
Measure pump tip clearance.

SERVICE LIMIT: 0.10 mm (0.004 in)



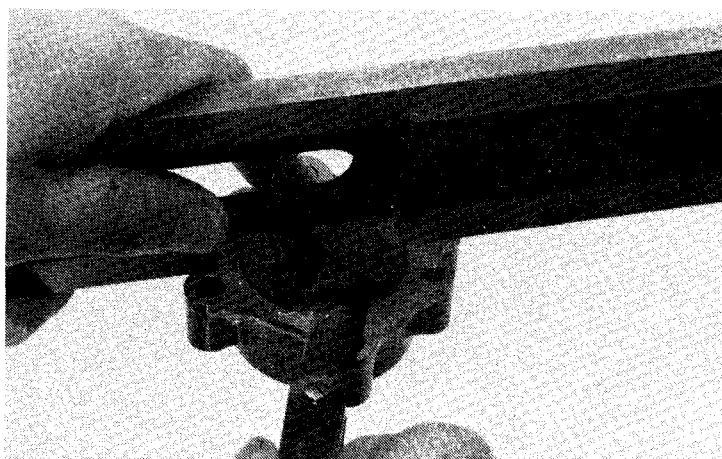
Measure pump body clearance.

SERVICE LIMIT: 0.35 mm (0.014 in)



Measure pump end clearance.

SERVICE LIMIT: 0.10 mm (0.004 in)



OIL PUMP ASSEMBLY

Slide the rotor drive pin into the pump shaft.

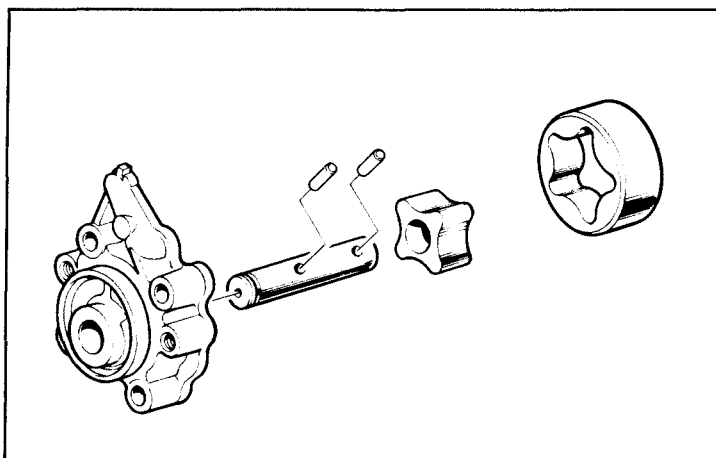
Insert the outer and inner rotors and pump shaft into the pump body.

Slide the sprocket drive pin into the pump shaft.

Install the thrust washer and pump cover.

NOTE

Install the pump cover after installing the dowel pins.





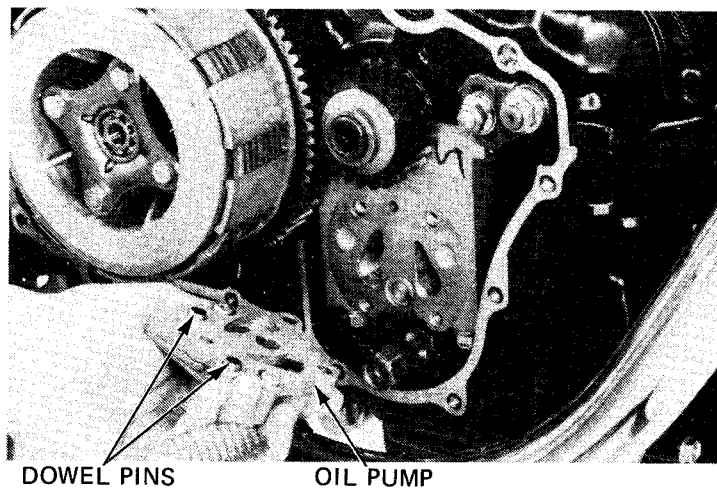
OIL PUMP INSTALLATION

CB450T, CM450C/E

Install the oil pump.

NOTE

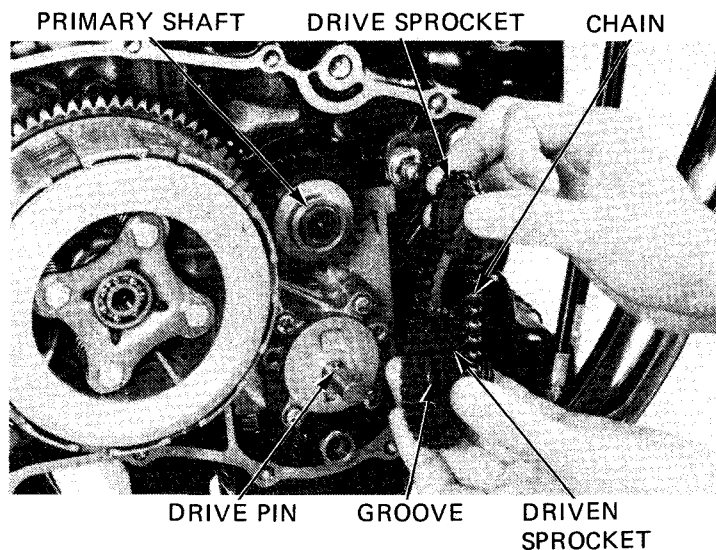
Make sure that the pump rotates freely without binding.



Align the flats on the primary shaft with the flats in the drive sprocket.

Align the drive pin on the pump shaft with the groove in the driven sprocket.

Install the drive sprocket, driven sprocket and chain at the same time.

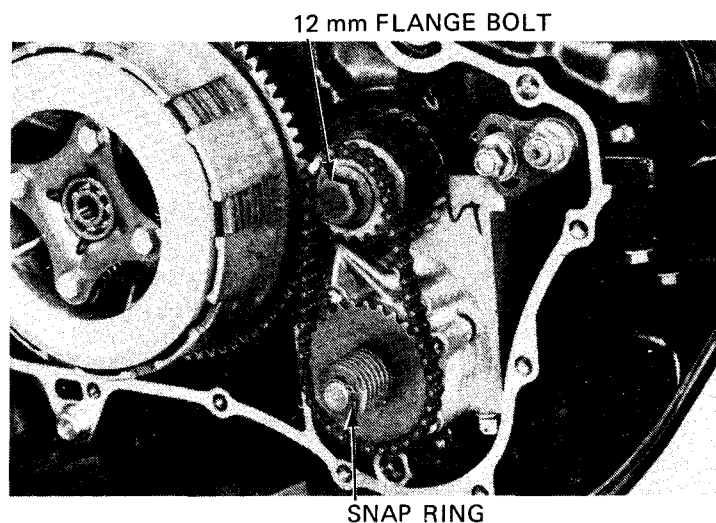


Install the snap ring.

Install the 12 mm flange bolt and tighten it to the specified torque.

TORQUE: 45–50 N·m (4.5–5.0 kg·m, 33–36 ft·lb)

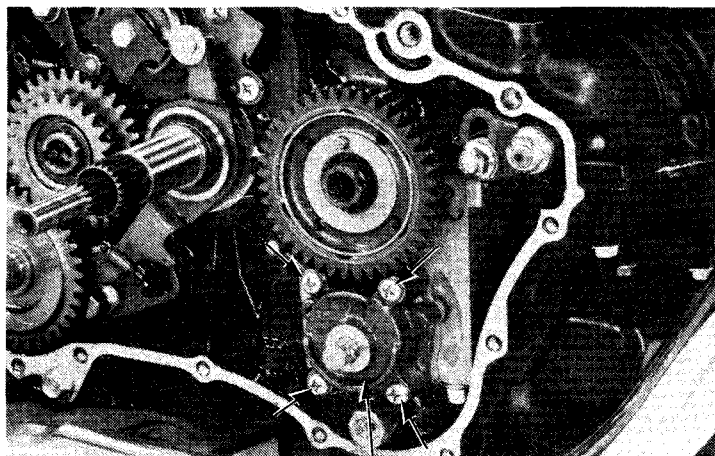
Install the right crankcase cover (see page 8-9).



CM450A

Install the oil pump.

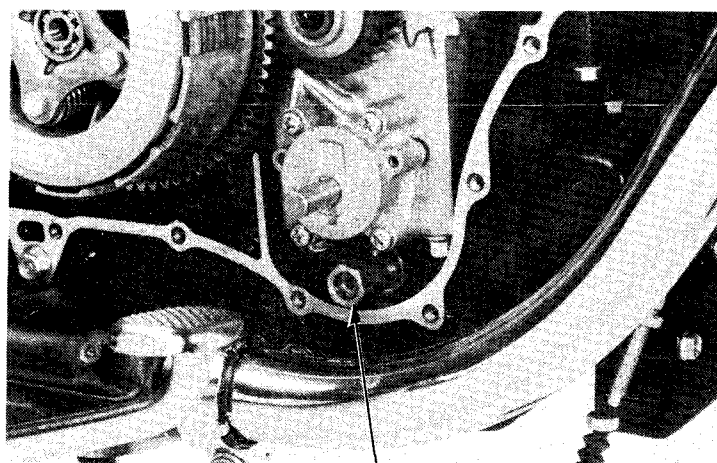
Install the sprocket and chain, right crankcase cover, torque converter and torque converter cover (see Section 9).



OIL PUMP

OIL PRESSURE RELIEF VALVE

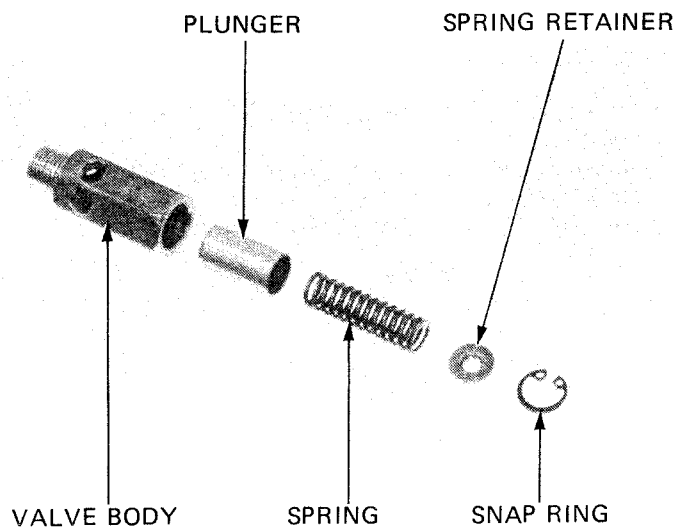
Remove the valve as an assembly and check its operation. The plunger should move freely in the valve when it is depressed, and should return to the closed position when released.



OIL PRESSURE RELIEF VALVE

If the valve does not operate properly, disassemble it and check for a stuck plunger or damaged or weak spring.

Replace the relief valve as a unit if the spring is broken, or the plunger is damaged.



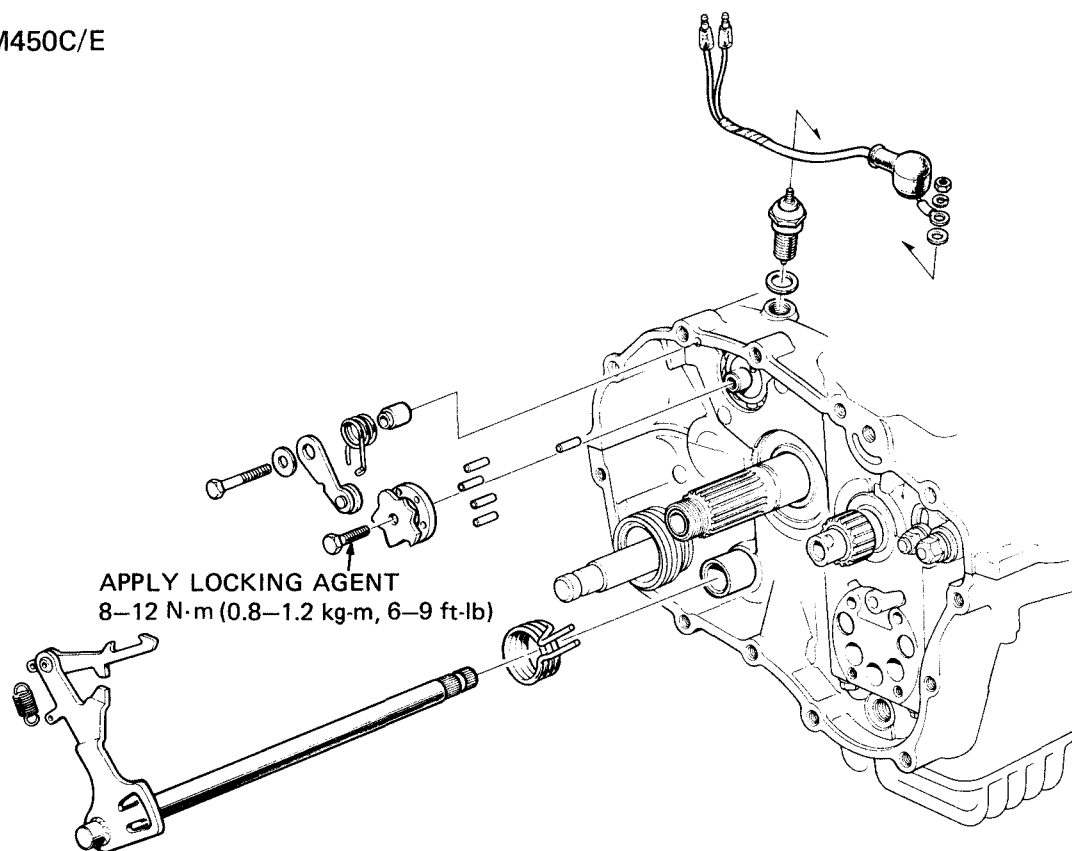


HONDA
CB/CM450'S

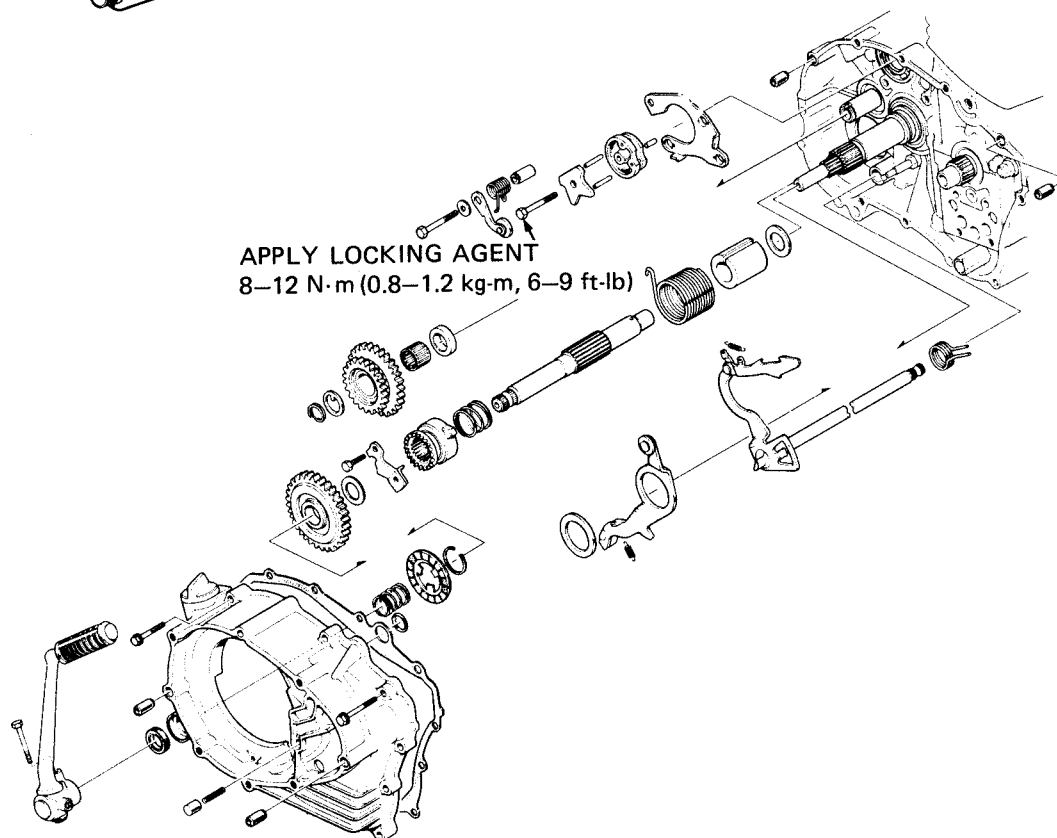
M E M O



CB450T, CM450C/E



CM450A



SERVICE INFORMATION	11-1
TROUBLESHOOTING	11-1
CB450T, CM450C/E:	
GEARSHIFT LINKAGE	11-2
CM450A:	
KICK STARTER AND GEARSHIFT LINKAGE	11-4

SERVICE INFORMATION

GENERAL

- The gearshift spindle, stopper arm and kick starter (CM450A only) can be serviced with the engine in the frame.
- If the shift forks, drum and transmission require servicing, remove the engine and separate the crankcase.

SPECIFICATIONS

		STANDARD	SERVICE LIMIT
Kick starter	Friction disc oil groove depth	0.30–0.70 mm (0.012–0.028 in)	0.10 mm (0.004 in)
	Pinion I.D.	18.500–18.521 mm (0.7283–0.7292 in)	18.54 mm (0.730 in)
	Spindle O.D.	18.459–18.480 mm (0.7267–0.7276 in)	18.44 mm (0.726 in)

11

TORQUE VALUE

Stopper plate 8–12 N·m (0.8–1.2 kg-m, 6–9 ft-lb)

TROUBLESHOOTING

CB450T, CM450C/E:

Hard to shift

1. Improper clutch adjustment; too much free play
2. Shift forks bent
3. Shift shaft bent
4. Shift claw bent
5. Shift drum cam grooves damaged

Transmission jumps out of gear

1. Gear dogs worn
2. Shift shaft bent
3. Shift drum stopper broken
4. Shift forks bent

CM450A:

Hard to shift into "1" or "2".

1. Damaged gearshift roller pin
2. Damaged gearshift pin
3. Damaged "1" or "2" gearshift plate and shifter dog
4. Damaged gearshift arm.

Engine can be kick started in "1" or "2" range

1. Damaged kick inhibitor arm
2. Kick inhibitor arm out of position

Transmission jumps out of gear:

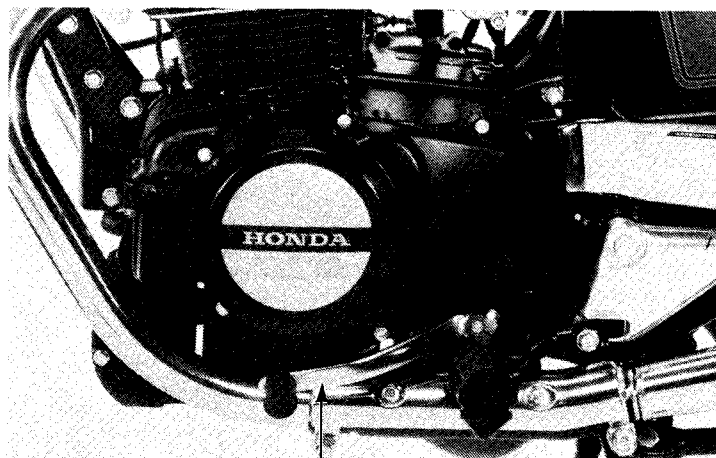
1. Shift drum stopper roller cam plate loose
2. Shift drum stopper spring damaged or weakened
3. Shift drum stopper cam plate bent or damaged
4. Drum stopper plate bent
5. Shift drum damaged
6. "1" or "2" gearshifter plate or shifter dog abnormally worn

CB450T, CM450C/E: GEARSHIFT LINKAGE

DISASSEMBLY

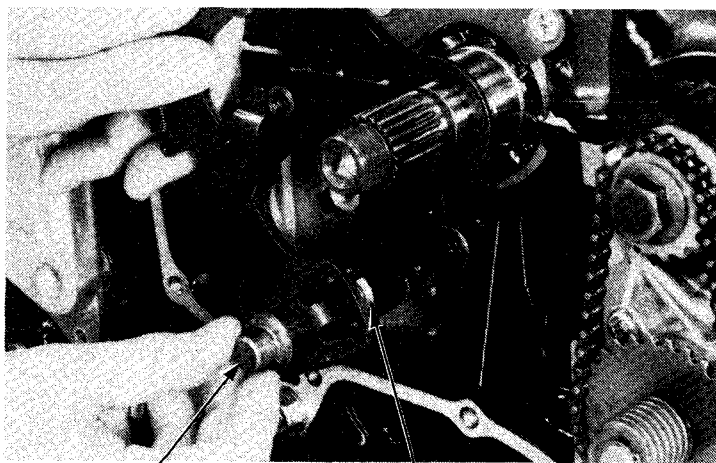
Remove the gearshift pedal.

Remove the clutch. (see Section 8)



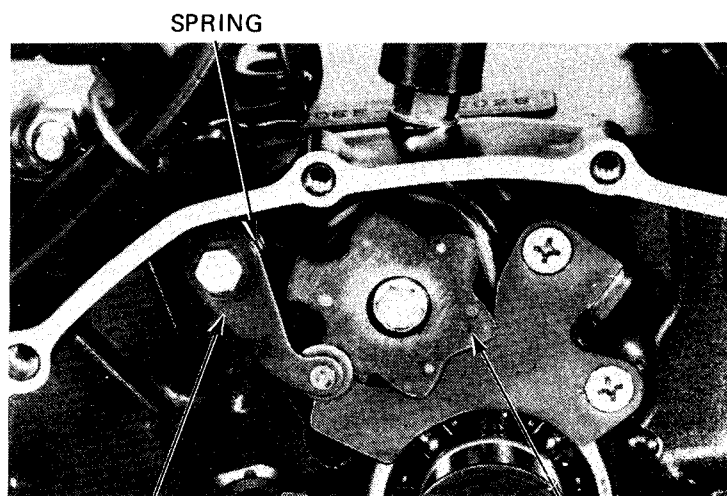
GEARSHIFT PEDAL

Remove the gearshift spindle and gearshift return spring.



GEARSHIFT SPINDLE RETURN SPRING

Remove the drum stopper arm and spring.
 Remove the stopper cam plate bolt.
 Remove the drum stopper cam plate, gearshift drum pins and collar.
 Inspect all parts for wear or damage.



DRUM STOPPER ARM

DRUM STOPPER CAM PLATE



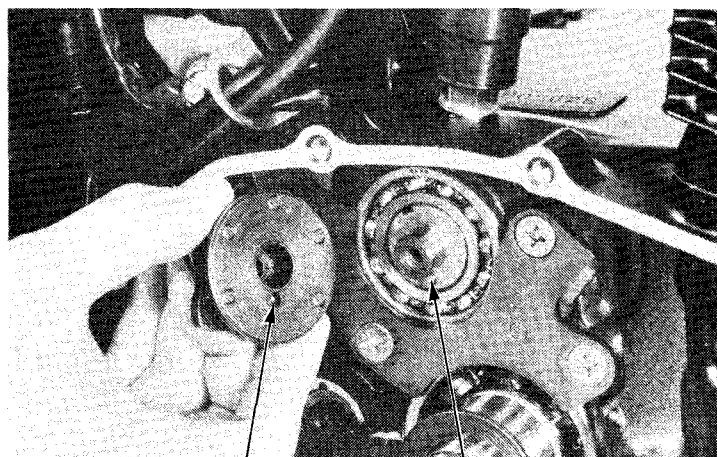
ASSEMBLY

Assemble the drum pins, collar and drum stopper cam plate.

Align the hole in the shift drum collar with the pin on the shift drum and install.

NOTE

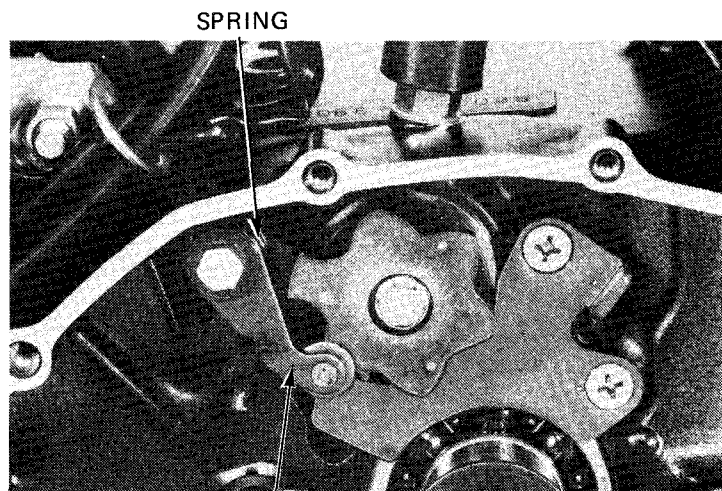
Apply a locking agent to the bolt threads and underside of bolt heads during assembly.



HOLE

PIN

Install the drum stopper arm and spring, noting the spring position.



SPRING

DRUM STOPPER ARM

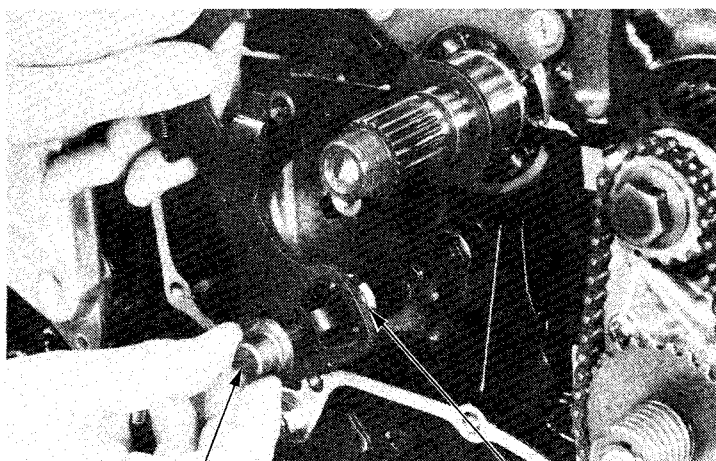
Assemble the gearshift spindle and gearshift return spring.

Install the gearshift spindle and return spring as shown.

After installing, check the linkage for smooth operation by rotating the gearshift spindle.

Install the clutch and right crankcase cover (see Section 8).

Install the gearshift pedal.



GEARSHIFT SPINDLE

RETURN SPRING



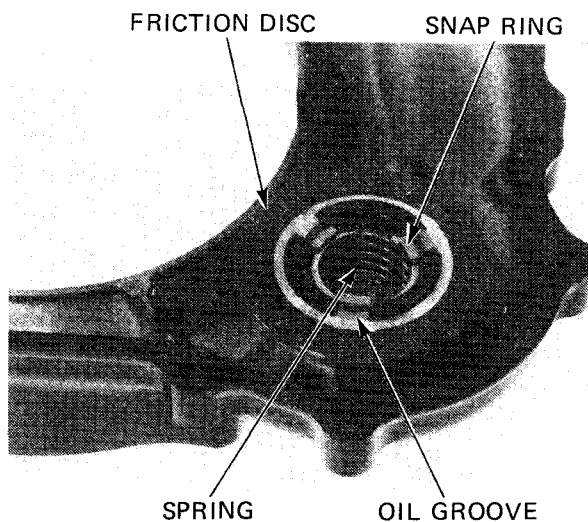
CM450A:

KICKSTARTER AND GEARSHIFT LINKAGE

DISASSEMBLY

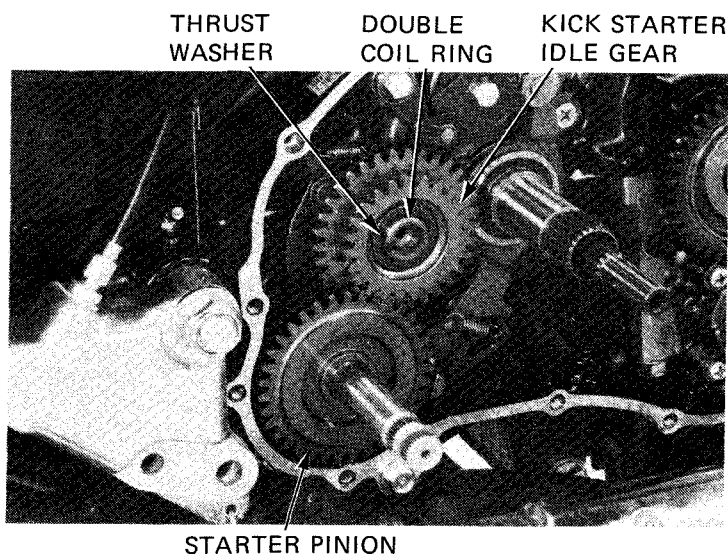
Remove the torque converter and right crankcase cover (see Section 9).

Remove the snap ring, kick starter friction disc and spring.



Remove the kick starter pinion.

Remove the double coil ring, thrust washer, kick starter idle gear, needle roller bearing and counter-shift collar.

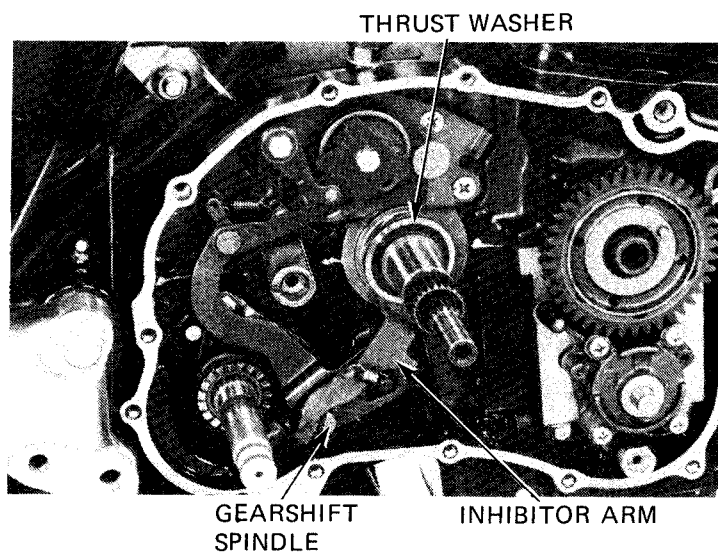


Remove the gearshift arm spring.

Remove the kick inhibitor arm and thrust washer.

Remove the gearshift pedal.

Remove the gearshift spindle.



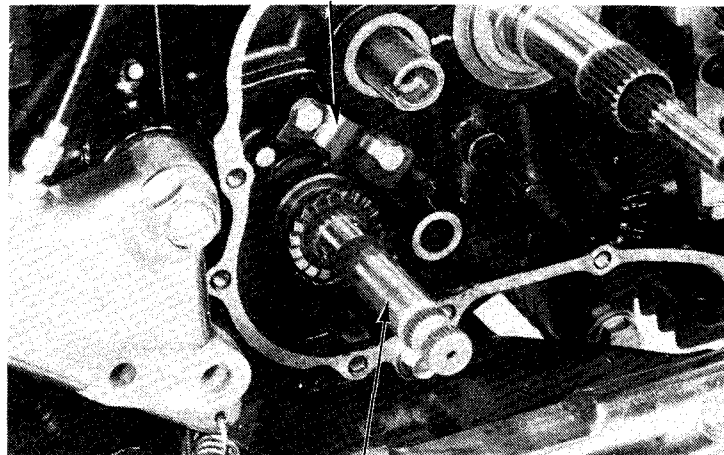


Remove the kick stopper plate.

Remove the kick starter spindle.

Remove the kick starter ratchet, ratchet spring, 16 mm plain washer, kick starter collar and starter spring from the spindle.

STOPPER PLATE



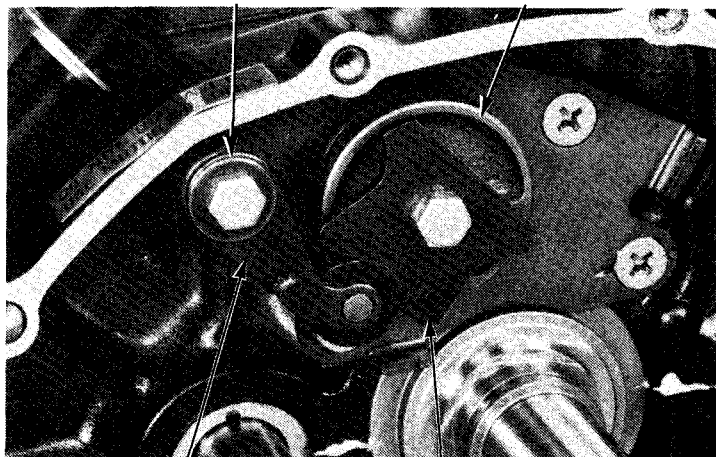
KICK SPINDLE

Remove the 6 mm bolt, plain washer, drum stopper, spring, and collar.

Remove the 6 mm bolt, shift drum stopper cam plate and shift drum center.

SPRING

DRUM CENTER



DRUM STOPPER

CAM PLATE

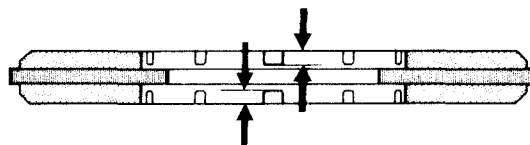
INSPECTION

Check the kick starter friction damper spring for weakness or damage.

Measure the depth of the oil groove in the kick starter friction disc.

SERVICE LIMIT: 0.1 mm (0.004 in)

If the service limit (one side) is exceeded, relocate the disc inside out so that the new wearing surface is on the kick starter spindle side.

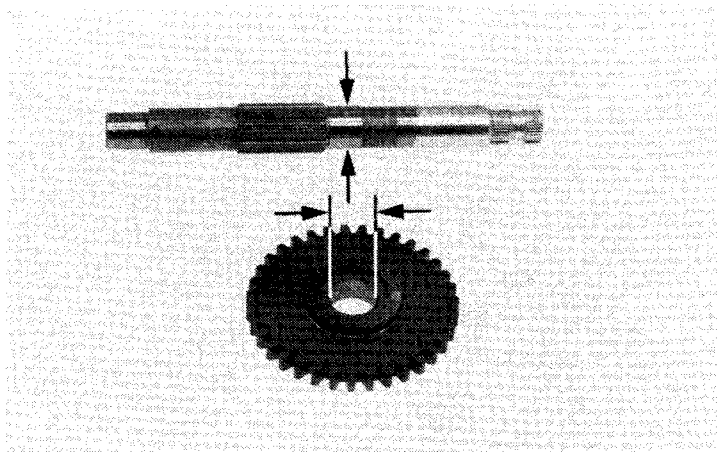


Measure the kick starter pinion I.D.

SERVICE LIMIT: 18.54 mm (0.730 in)

Measure the kick starter spindle O.D. at the pinion contacting area.

SERVICE LIMIT: 18.44 mm (0.726 in)



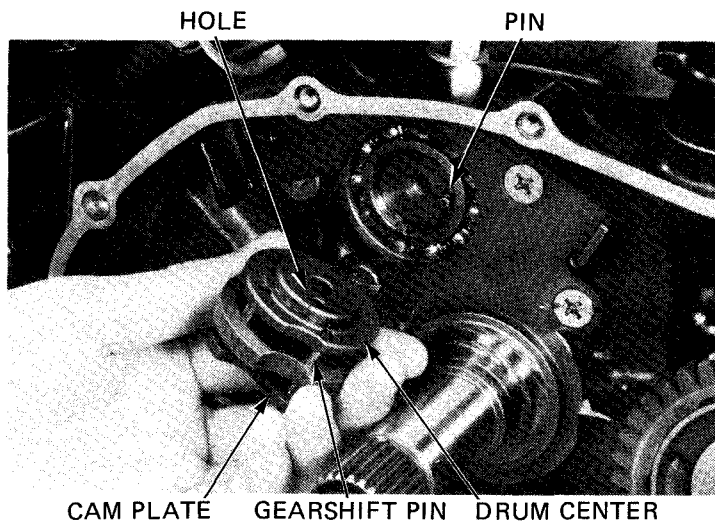
ASSEMBLY

Assemble the cam plate, gearshift pins and drum center.

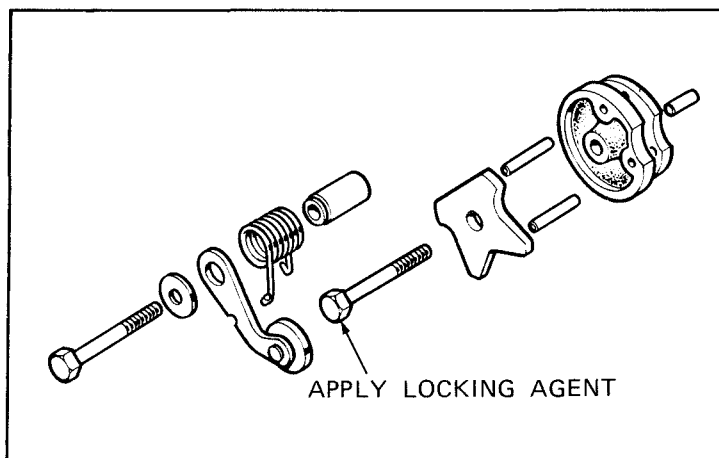
Align the hole in the drum center with the pin on the shift drum and install the drum center.

NOTE

Apply a locking agent to the bolt threads and underside of the bolt head during assembly.

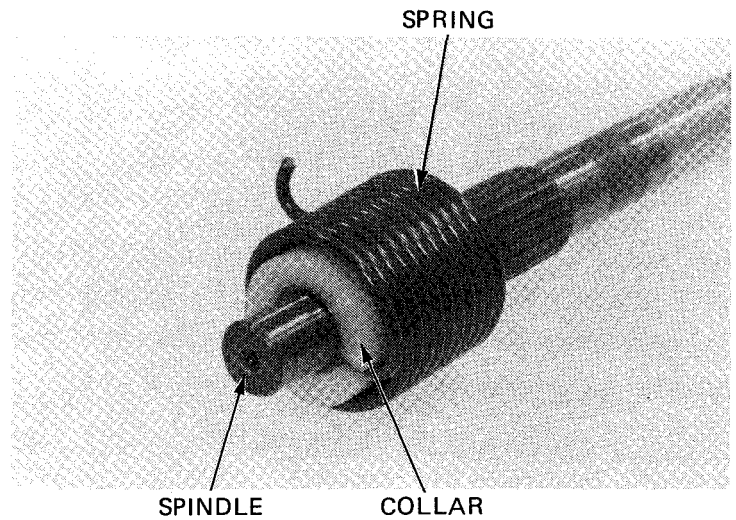


Install the drum stopper, the stopper collar and spring, and the plain washer.





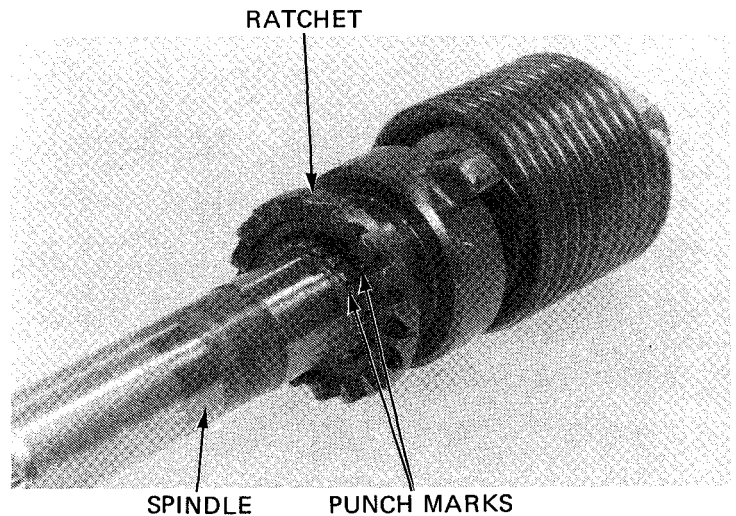
Install the kick starter spring and collar on the spindle.



Install the ratchet spring and kick starter ratchet on the spindle.

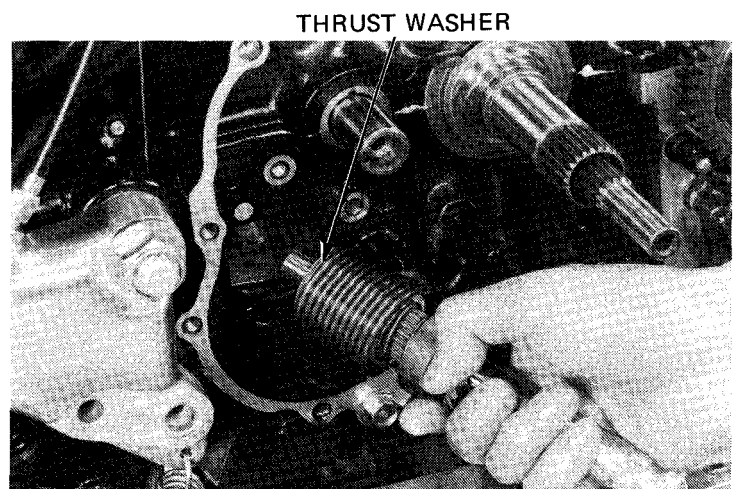
NOTE

Align the punch marks on the ratchet and spindle.



Place the thrust washer on the spindle.

Insert the spindle in the crankcase.

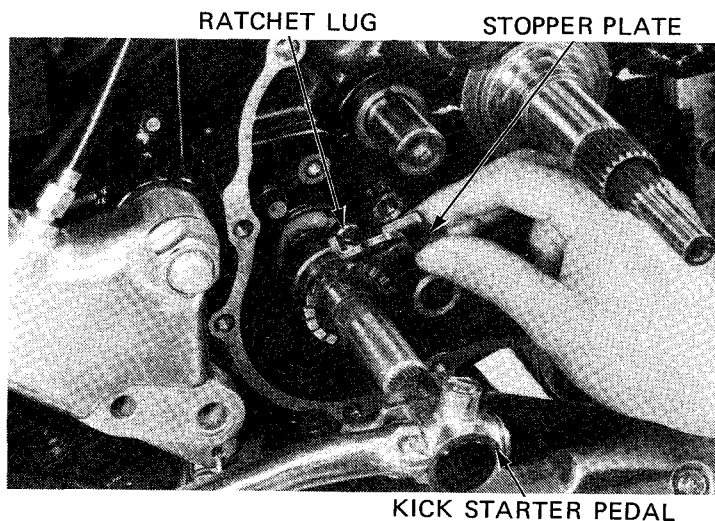


GEARSHIFT LINKAGE

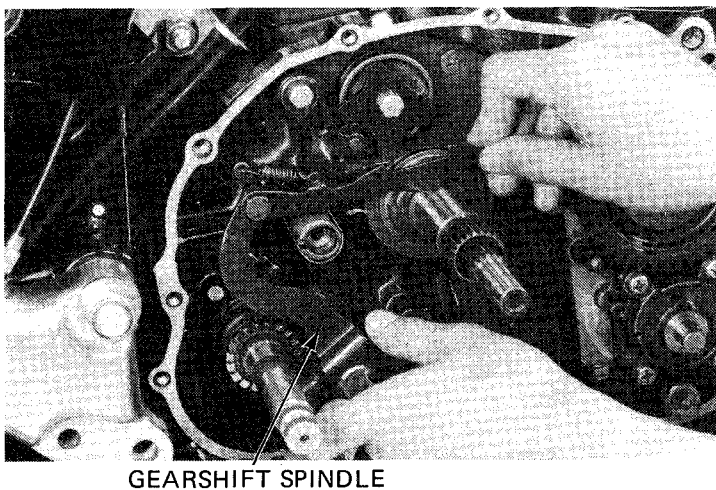
Hook the kick starter spring on the crankcase abutment.

Install the kick stopper plate.

Rotate the spindle with the kick starter pedal so the ratchet lug contacts the plate stopper.



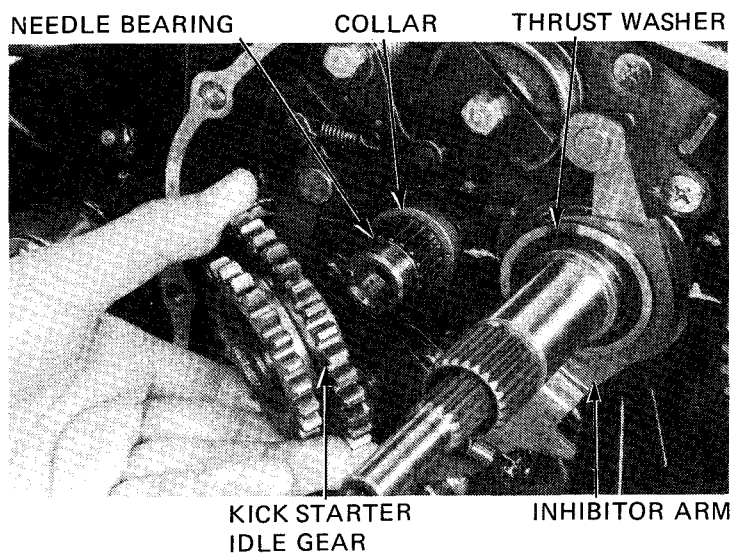
Install the gearshift spindle.



Install the kick inhibitor arm and thrust washer.

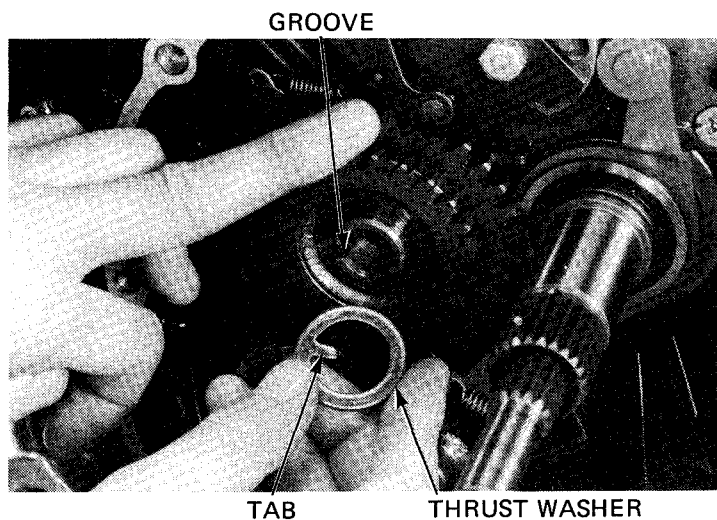
Install the kick starter idle gear collar and needle bearing.

While pressing the inhibitor arm into place on the stator shaft, install the kick starter idle gear.



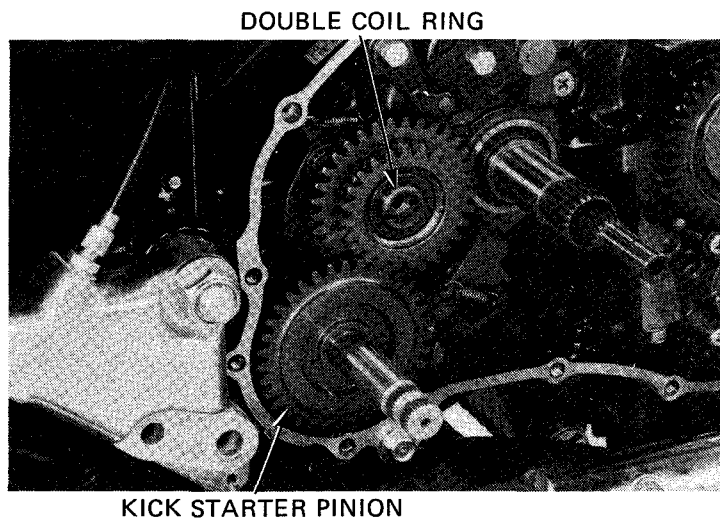


Align the tab of the thrust washer with the groove in the kick starter spindle and install the washer onto the spindle.



Install the double coil ring.

Install the kick starter pinion.



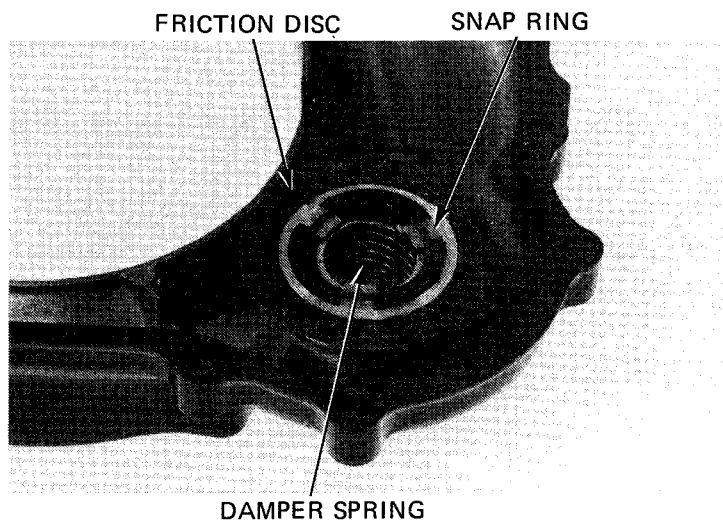
Install the friction damper spring and friction disc in the right crankcase cover, and secure with the snap ring.

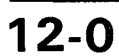
Install the right crankcase cover and torque converter (see Section 9).

Install the gearshift pedal.

NOTE

After assembling, check the operation of each part.





SERVICE INFORMATION	12-1
CRANKCASE DISASSEMBLY	12-2
CRANKCASE ASSEMBLY	12-2

SERVICE INFORMATION

GENERAL

- To repair the crankshaft, connecting rods, balancer and transmission including the shift fork and drum, it is necessary to separate the crankcase halves.
- The engine must be removed from the frame and the following parts be removed before disassembling the crankcase.
 - Cylinder head Section 6
 - Cylinders/pistons Section 7
 - Clutch (CB450T, CM450C/E) Section 8
 - Torque converter (CM450A) Section 9
 - Oil pump Section 10
 - Gearshift linkage Section 11
 - AC Generator Section 18
 - Starter motor Section 20

TORQUE VALUES

6 mm bolt (crankcase)	10-14 N·m (1.0-1.4 kg-m, 7-10 ft-lb)
8 mm bolt (crankcase)	20-30 N·m (2.0-3.0 kg-m, 14-22 ft-lb)



CRANKCASE

CRANKCASE DISASSEMBLY

Turn the engine upside down.

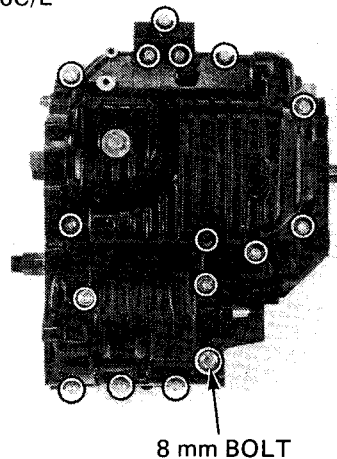
Remove the 8 mm bolt and the fifteen 6 mm bolts.

NOTE

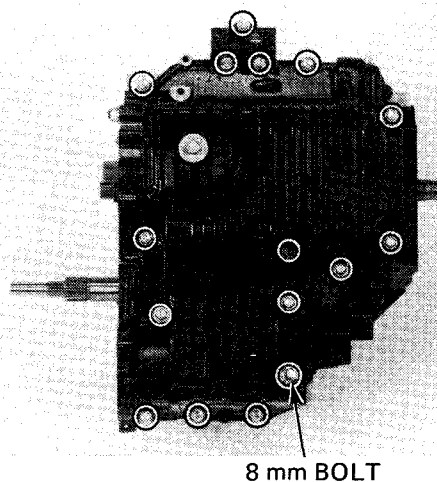
Remove the bolts in two or more steps and in a crisscross pattern to prevent warpage.

Remove the lower case.

CB450T, CM450C/E



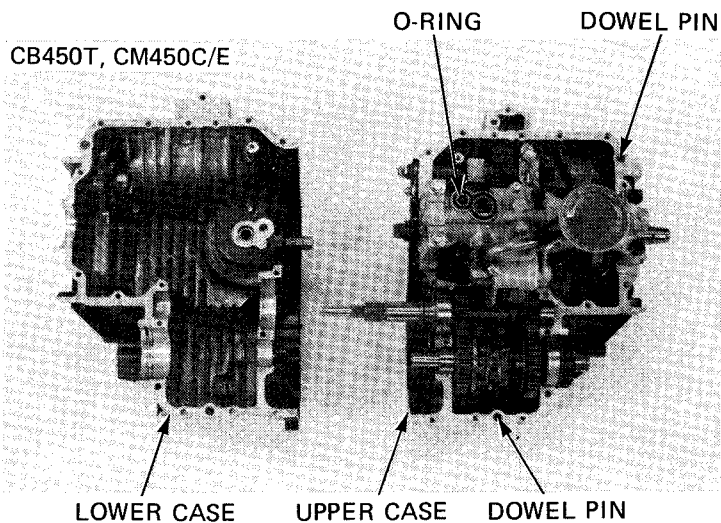
CM450A



CRANKCASE ASSEMBLY

Before assembling, apply liquid sealant to the mating surfaces.

Install the O-ring and dowel pins.





Position the lower case onto the upper case and tighten the bolts to the specified torques.

TORQUE VALUES:

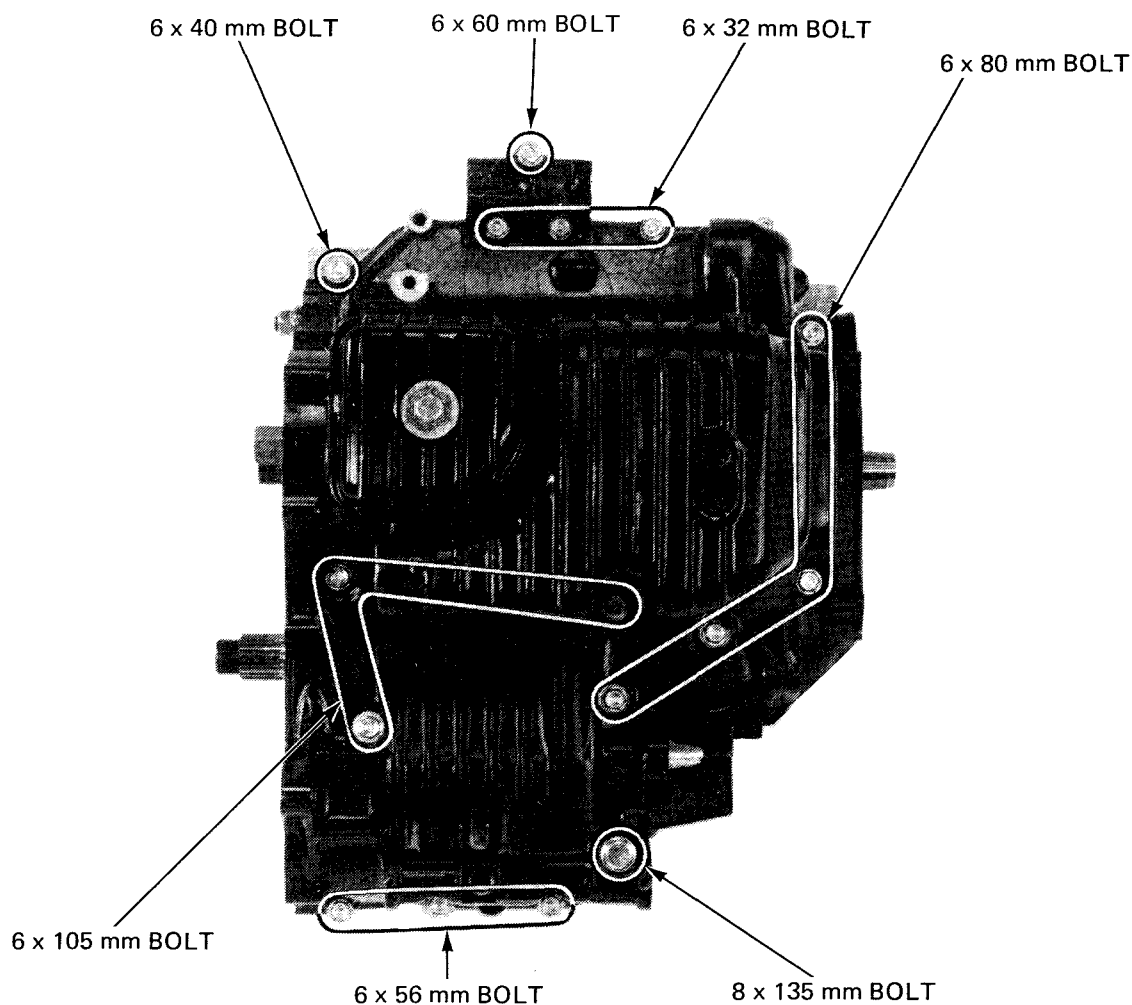
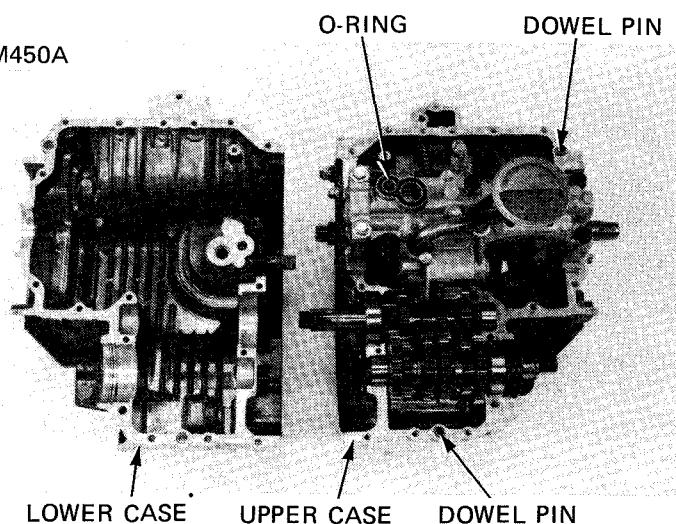
6 mm BOLT: 10–14 N·m (1.0–1.4 kg-m,
7–10 ft-lb)

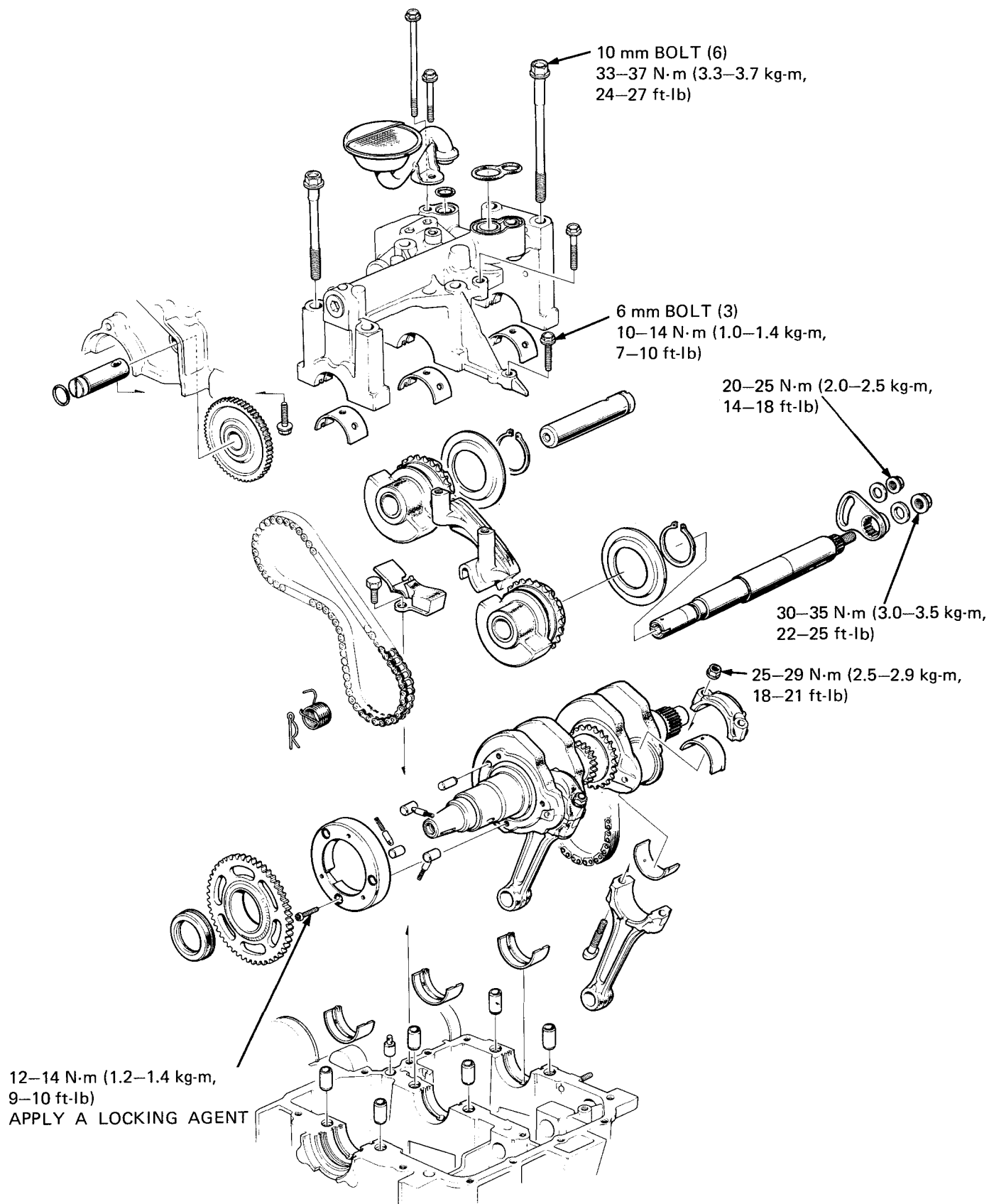
8 mm BOLT: 20–30 N·m (2.0–3.0 kg-m,
14–22 ft-lb)

NOTE

Tighten the bolts in two or more steps and in a crisscross pattern.

CM450A







SERVICE INFORMATION	13-1
TROUBLESHOOTING	13-2
BALANCER REMOVAL	13-3
CONNECTING ROD REMOVAL	13-5
CRANKSHAFT/STARTER CLUTCH REMOVAL	13-6
ELECTRIC STARTER IDLE GEAR REMOVAL	13-7
BEARING INSPECTION	13-8
BEARING SELECTION	13-10
ELECTRIC STARTER IDLE GEAR INSTALLATION	13-12
ELECTRIC STARTER CLUTCH/CRANKSHAFT INSTALLATION	13-12
CONNECTING ROD INSTALLATION	13-13
BALANCER INSTALLATION	13-14

SERVICE INFORMATION

GENERAL

- All bearing inserts are a select fit and are identified by color code. Select replacement bearings from the color code table.
- After installing new bearings, recheck them with plastigauge to verify clearance.
- After installing the balancer, check the timing and adjust balancer chain tension.
- Apply molybdenum disulfide grease to the main journals and crankpins during assembly.

SPECIFICATIONS

		STANDARD	SERVICE LIMIT
Balancer	I.D.	18.010—18.028 mm (0.7090—0.7098 in)	18.04 mm (0.710 in)
	Shaft O.D.	17.966—17.984 mm (0.7073—0.7080 in)	17.95 mm (0.707 in)
	Balancer-to-shaft clearance	—	0.08 mm (0.003 in)
Crankshaft	Connecting rod big end side clearance	0.05 —0.25 mm (0.002 —0.010 in)	0.35 mm (0.014 in)
	Crankpin oil clearance	0.020—0.044 mm (0.0008—0.0017 in)	0.08 mm (0.003 in)
	Main journal oil clearance	0.020—0.044 mm (0.0008—0.0017 in)	0.08 mm (0.003 in)
	Runout	—	0.05 mm (0.002 in)
Electric starter gear	Drive gear O.D.	54.170—54.200 mm (2.1327—2.1339 in)	54.15 mm (2.132 in)
	Idle gear-to-shaft clearance	—	0.10 mm (0.004 in)

CRANKSHAFT/BALANCER

TOOL

SPECIAL

Torx driver bit, T-30

07703-0010200

TORQUE VALUES

Crankpin	25-29 N·m (2.5-2.9 kg-m, 18-21 ft-lb)
Bearing holder	
6 mm bolt	10-14 N·m (1.0-1.4 kg-m, 7-10 ft-lb)
10 mm bolt	33-37 N·m (3.3-3.7 kg-m, 24-27 ft-lb)
Stopper plate	30-35 N·m (3.0-3.5 kg-m, 22-25 ft-lb)
Stopper plate lock nut	20-25 N·m (2.0-2.5 kg-m, 14-18 ft-lb)
Starter clutch	12-14 N·m (1.2-1.4 kg-m, 9-10 ft-lb)

TROUBLESHOOTING

Excessive noise

1. Crankshaft
 - Worn main journal bearing
 - Worn crankpin bearing
2. Balancer
 - Improper timing adjustment
 - Improper chain adjustment
 - Damaged chain

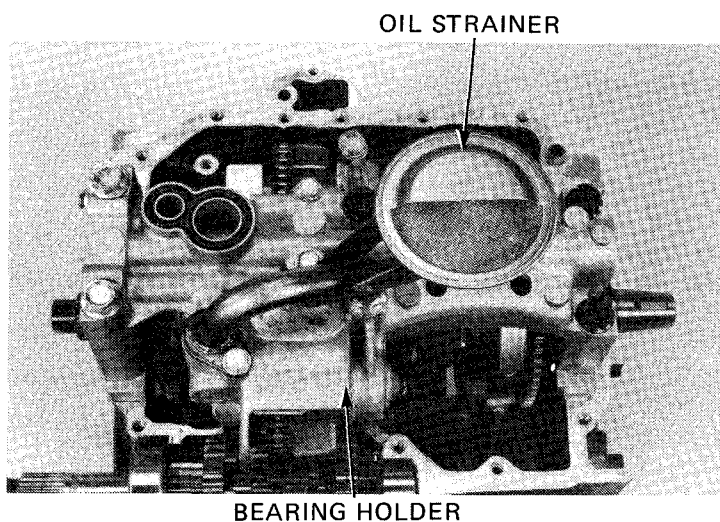


BALANCER REMOVAL

Separate the crankcase (Section 12).

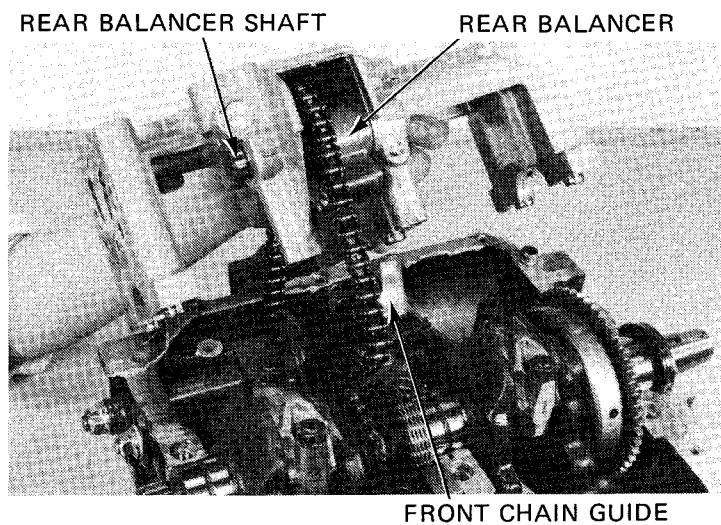
Remove the oil strainer.

Remove the bearing holder bolts and front chain guide bolts.

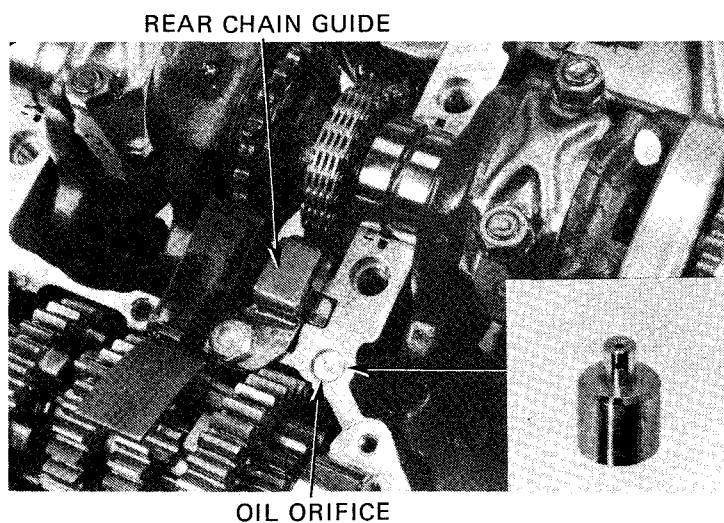


Remove the front chain guide.

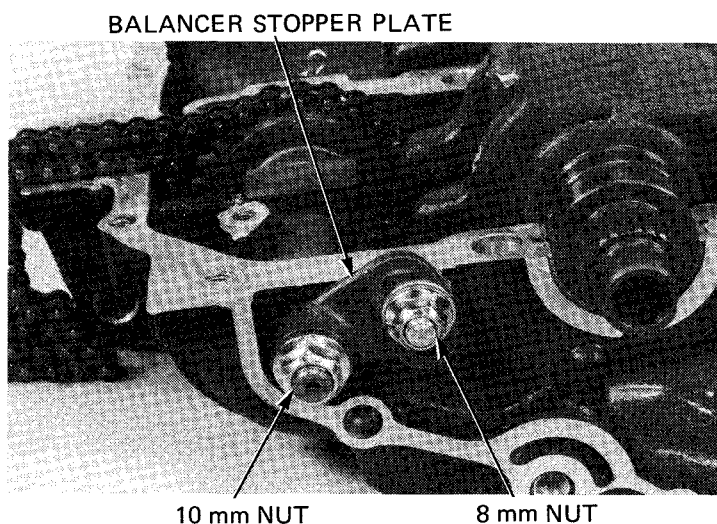
Remove the rear balancer shaft and rear balancer.



Remove the oil orifice and rear chain guide.

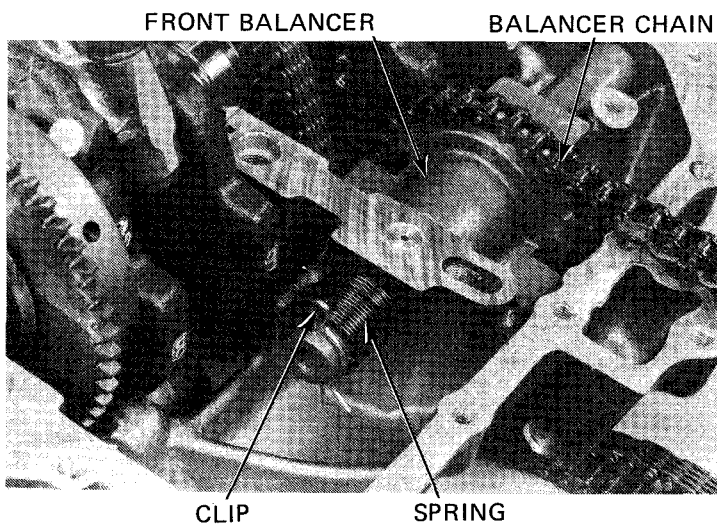


Remove the 10 mm nut, 8 mm nut and balancer stopper plate.



Remove the clip and spring.

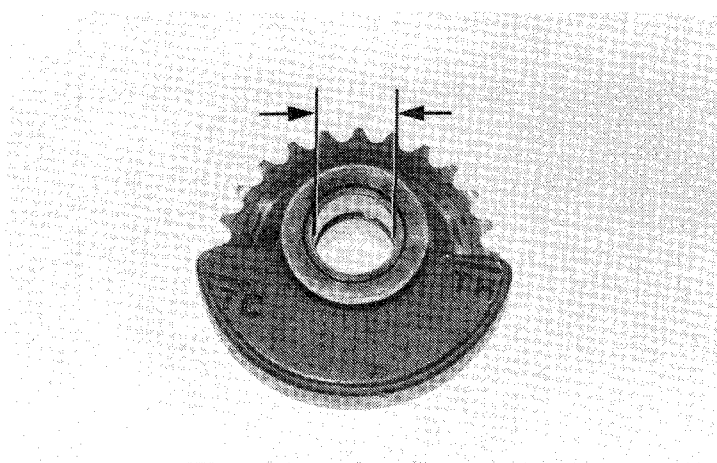
Pull the front balancer shaft out and remove the front balancer and chain.



BALANCER INSPECTION

Measure the balancer I.D.

SERVICE LIMIT: 18.04 mm (0.710 in)





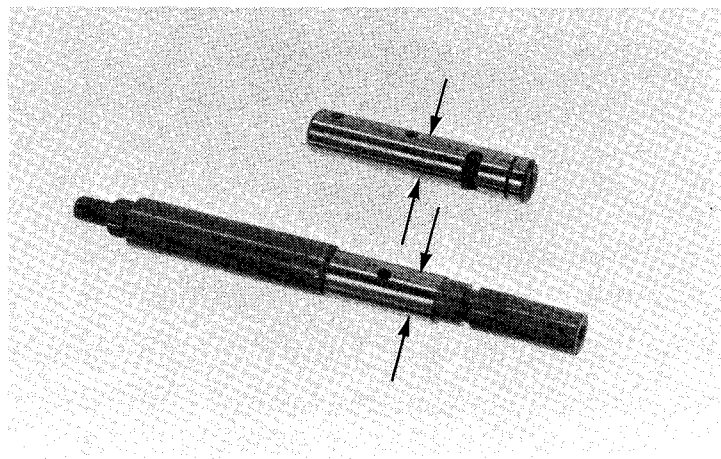
Measure the balancer shaft O.D.

SERVICE LIMIT: 17.95 mm (0.707 in)

Calculate the clearance between the balancer and balancer shaft.

SERVICE LIMIT: 0.08 mm (0.003 in)

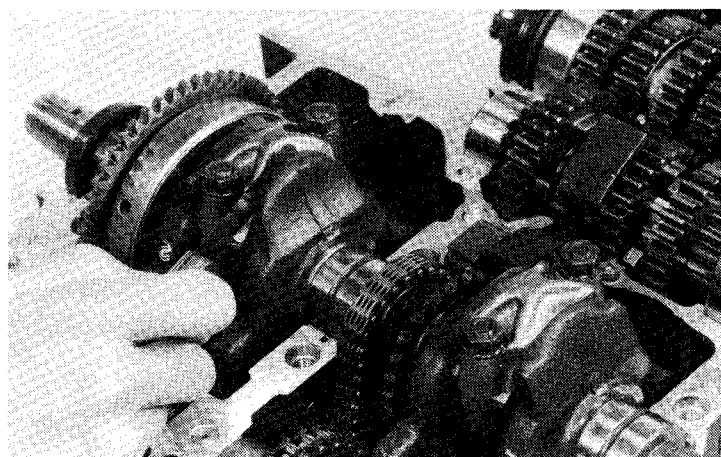
Replace the balancer and shaft if the service limit is exceeded.



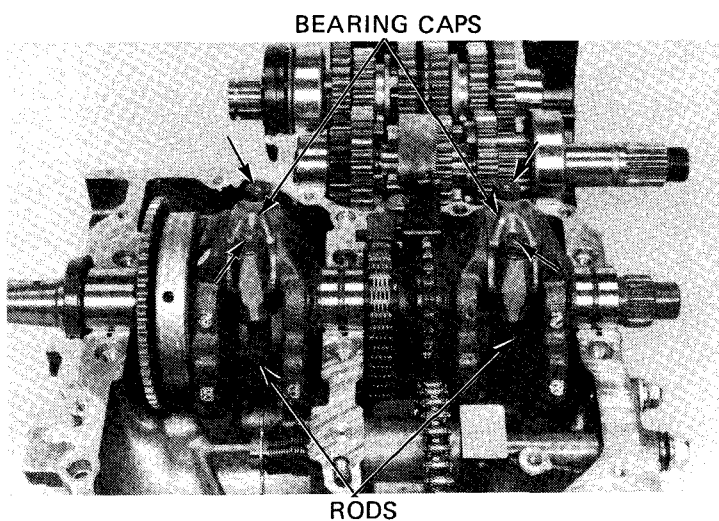
CONNECTING ROD REMOVAL

Check the connecting rod side clearance.

SERVICE LIMIT: 0.35 mm (0.014 in)

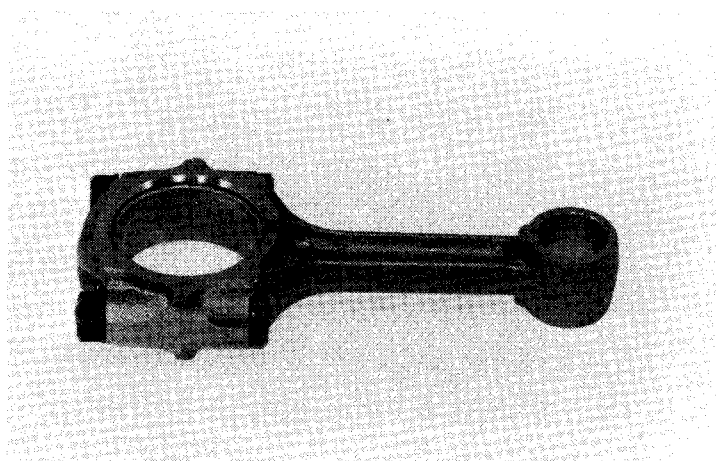


Remove the bearing caps and rods.



NOTE

Mark the rods, bearings and bearing caps to indicate the cylinder position.



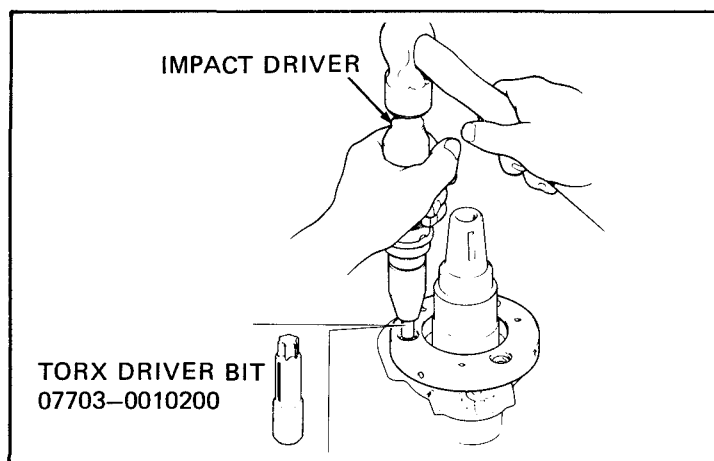
CRANKSHAFT/STARTER CLUTCH REMOVAL

Remove the oil seal.

Remove the starter drive gear.

Remove the "torx" bolts.

Remove the starter clutch.



INSPECTION

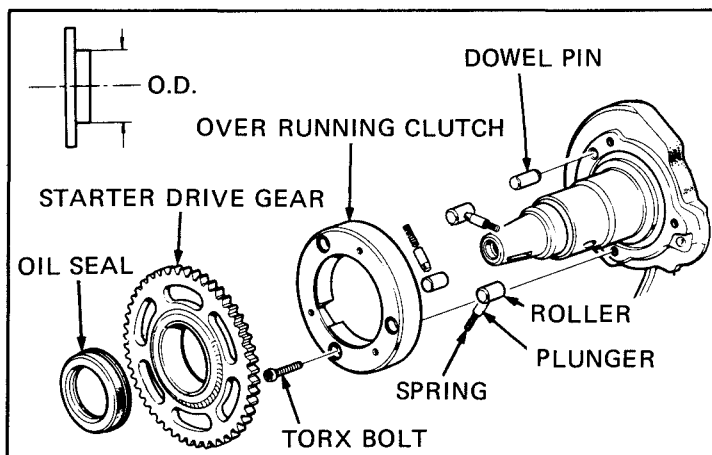
Inspect the roller for smooth rotation.

Remove the roller and check for excessive or local wear.

Inspect the starter drive gear for damage or local or excessive wear.

Measure the starter drive gear O.D.

SERVICE LIMIT: 54.15 mm (2.132 in)





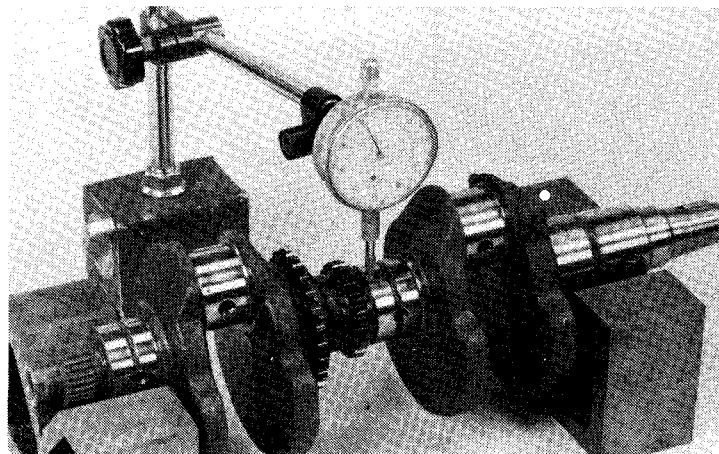
Set the crankshaft on a stand or V blocks.

Set a dial gauge into the center main journal.

Rotate the crankshaft two revolutions and read runout at the center journal.

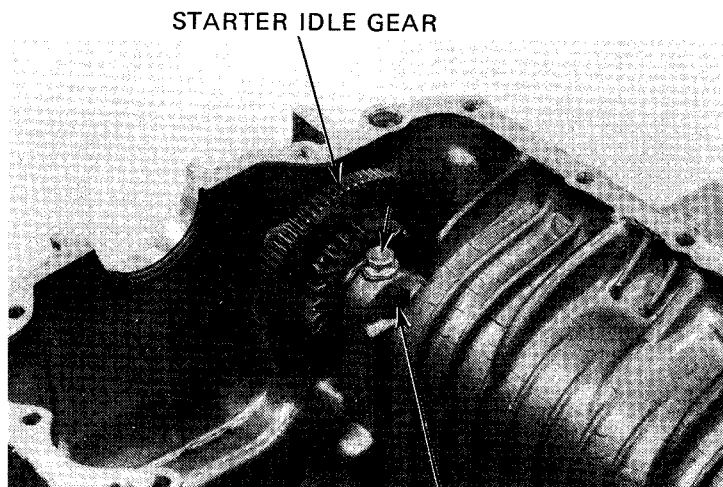
Actual runout is 1/2 of the total indicator reading.

SERVICE LIMIT: 0.05 mm (0.002 in)



ELECTRIC STARTER IDLE GEAR REMOVAL

Remove the bolt, pull out the idle gear shaft, and take out the idle gear.

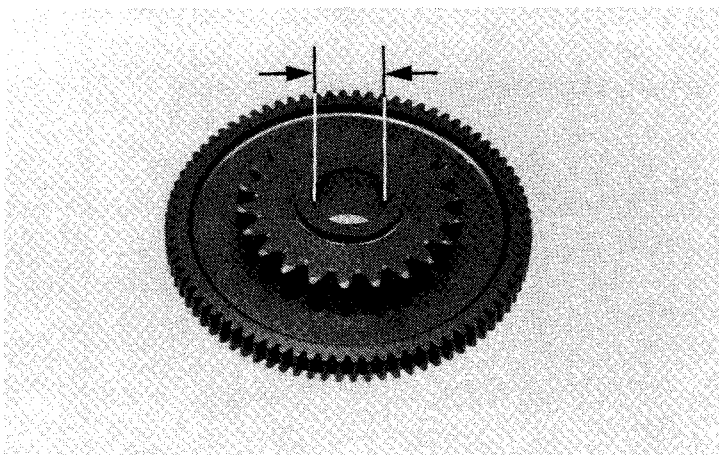


IDLE GEAR SHAFT

INSPECTION

Inspect the idle gear for tooth damage and measure the idle gear I.D.

SERVICE LIMIT: 16.05 mm (0.632 in)



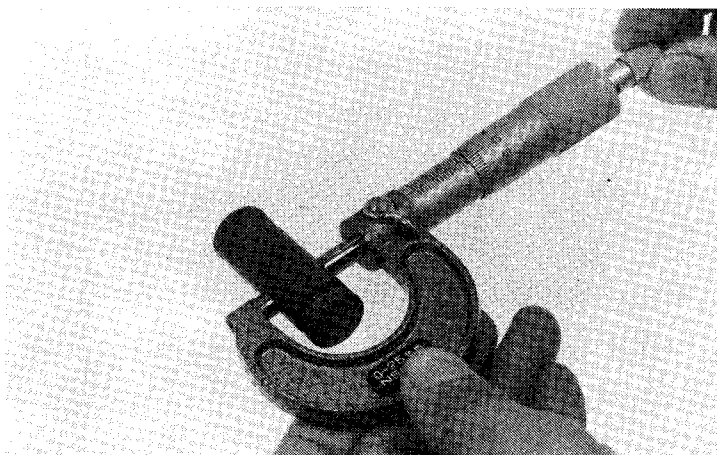
Measure the idle gear shaft O.D.

SERVICE LIMIT: 15.95 mm (0.628 in)

Calculate the idle gear-to-shaft clearance.

SERVICE LIMIT: 0.10 mm (0.004 in)

Replace the idle gear and shaft if the service limit is exceeded.



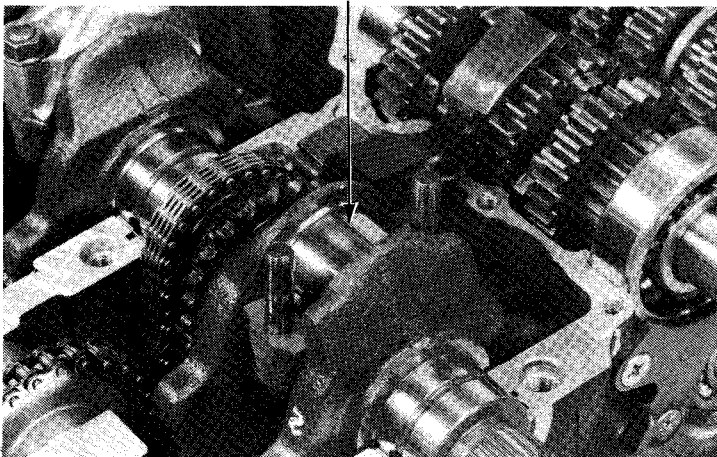
BEARING INSPECTION

CONNECTING RODS

Inspect the bearing inserts for damage, separation, or other defects.

Put a piece of plastigauge on each crankpin, avoiding the oil hole.

PLASTIGAUGE

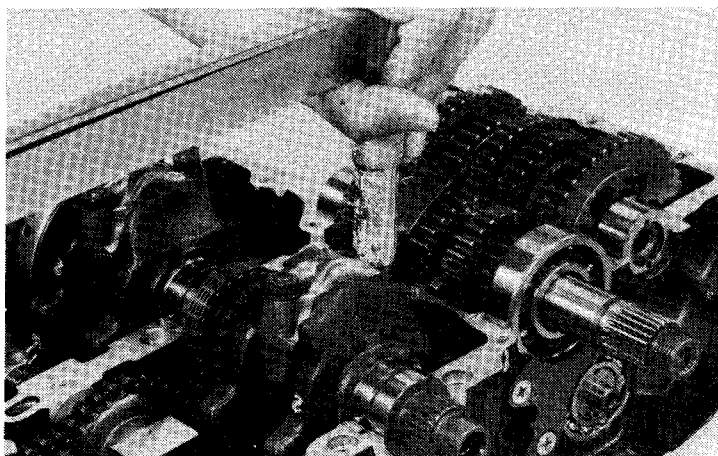


Install the bearing caps on the correct crankpins, and torque them evenly.

TORQUE: 25–29 N·m (2.5–2.9 kg-m, 18–21 ft-lb)

NOTE

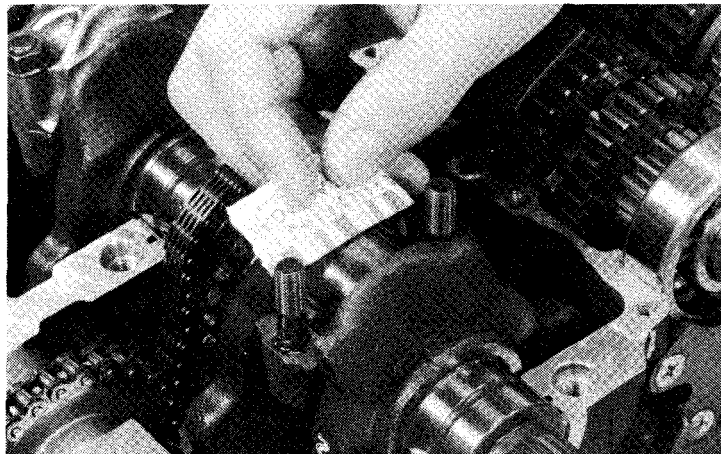
Do not rotate crankshaft during inspection.





Remove the caps and measure the compressed plastigauge on each crankpin.

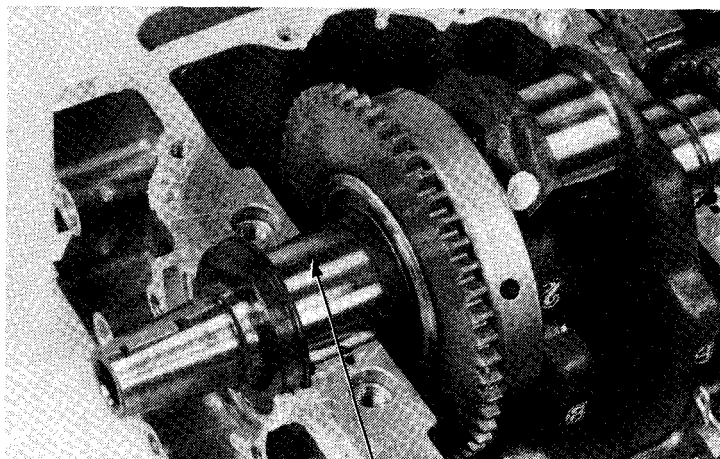
OIL CLEARANCE SERVICE LIMIT:
0.08 mm (0.003 in)



MAIN BEARINGS

Inspect the bearing inserts for damage, separation, or other faults.

Put a piece of plastigauge on each journal, avoiding the oil holes.



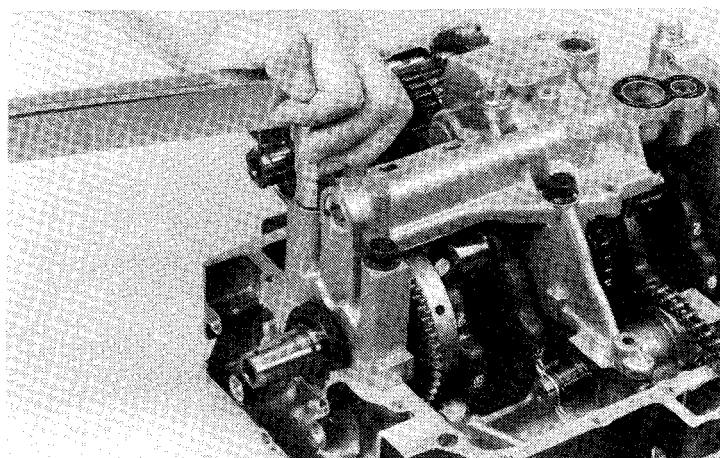
PLASTIGAUGE

Install the main bearings on the correct journals, and torque them evenly in a crisscross pattern and in two or more steps.

TORQUE: 33–37 N·m (3.3–3.7 kg·m, 24–27 ft·lb)

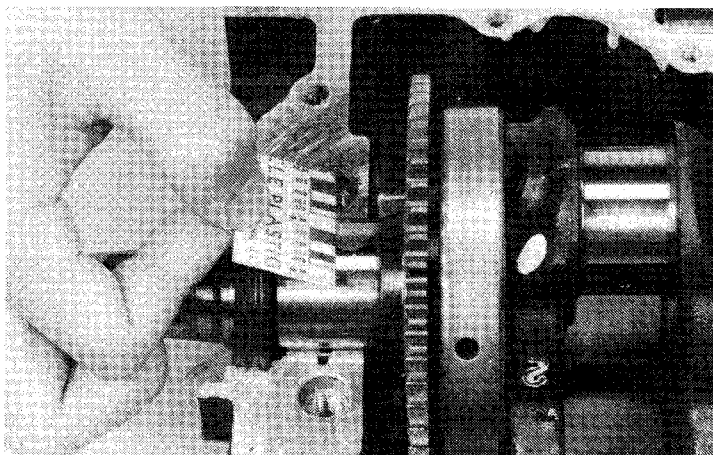
NOTE

Do not rotate the crankshaft during inspection.



Remove the caps and measure the compressed plasti-gauge on each journal.

OIL CLEARANCE SERVICE LIMIT:
0.08 mm (0.003 in)

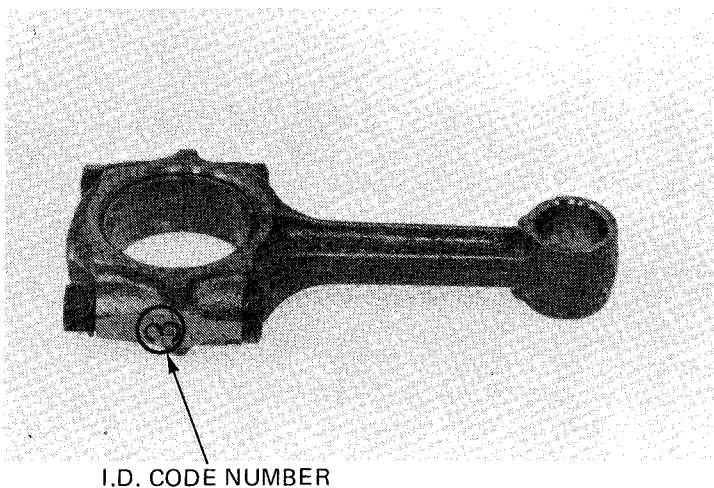


BEARING SELECTION

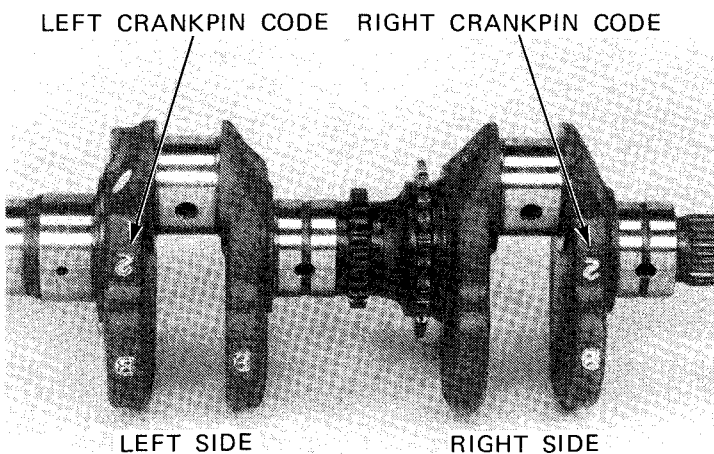
If rod bearing clearance is beyond the service limit, select replacement bearings as follows:

CONNECTING ROD BEARING INSERTS

Determine and record the corresponding rod I.D. code number.



Determine and record the corresponding crankpin O.D. code number.

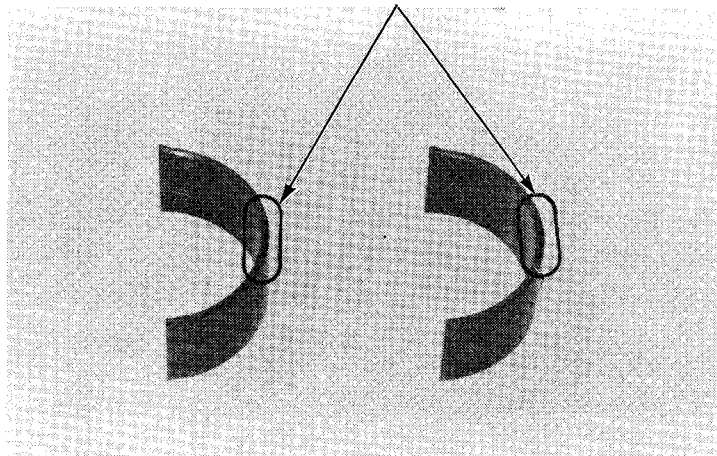




Cross reference the crankpin and rod codes to determine the replacement bearing color.

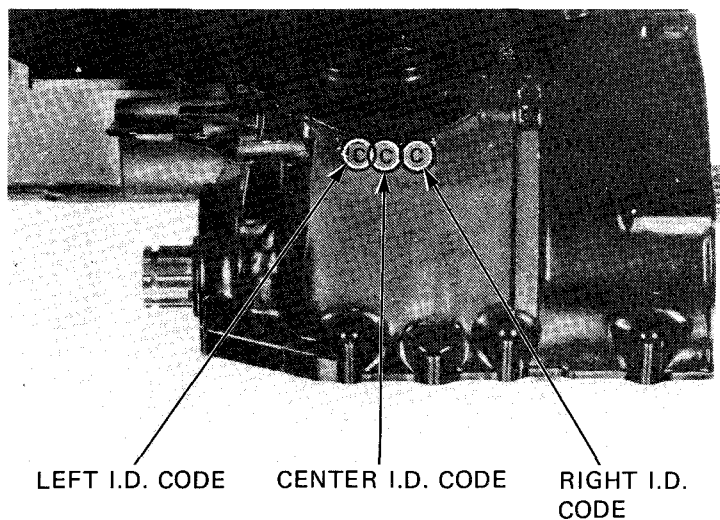
			CRANKPIN O.D. CODE NUMBERS		
			1	2	3
			35.992~ 36.000 mm	35.984~ 35.992 mm	35.976~ 35.984 mm
CONNECTING ROD I.D. CODE NUMBERS	1	39.000~ 39.008 mm	E (YELLOW)	D (GREEN)	C (BROWN)
	2	39.008~ 39.016 mm	D (GREEN)	C (BROWN)	B (BLACK)
	3	39.016~ 39.024 mm	C (BROWN)	B (BLACK)	A (BLUE)

COLOR CODES

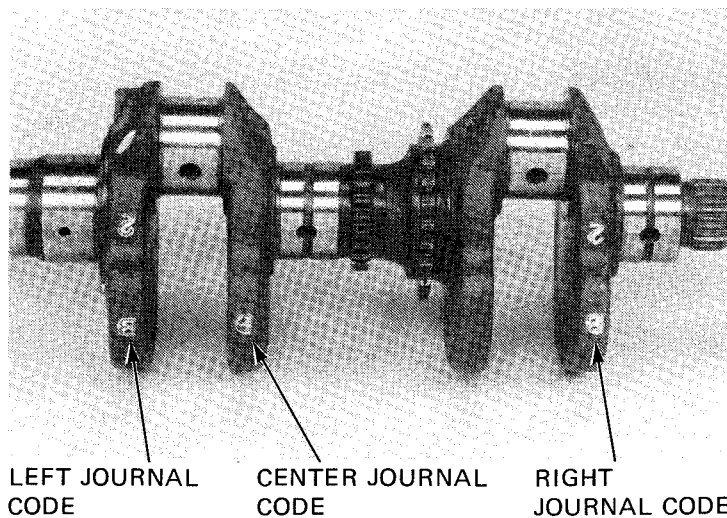


MAIN BEARING

Determine and record each bearing holder and case I.D. code number.



Determine and record the corresponding main journal O.D. code letters.



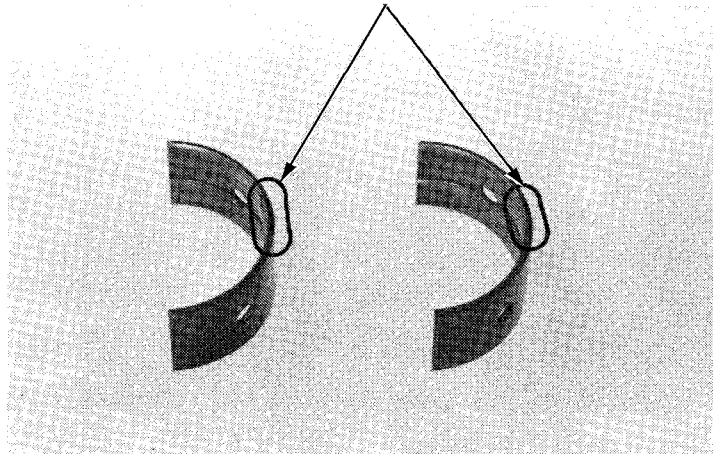


CRANKSHAFT/BALANCER

Cross reference the case and journal codes to determine the replacement bearing color.

			MAIN JOURNAL O.D. CODES		
			A	B	C
			35.992~ 36.000 mm	35.984~ 35.992 mm	35.976~ 35.984 mm
CASE I.D. CODE NUMBERS	A	39.000~ 39.008 mm	E (YELLOW)	D (GREEN)	C (BROWN)
	B	39.008~ 39.016 mm	D (GREEN)	C (BROWN)	B (BLACK)
	C	39.016~ 39.025 mm	C (BROWN)	B (BLACK)	A (BLUE)

COLOR CODES



ELECTRIC STARTER IDLE GEAR INSTALLATION

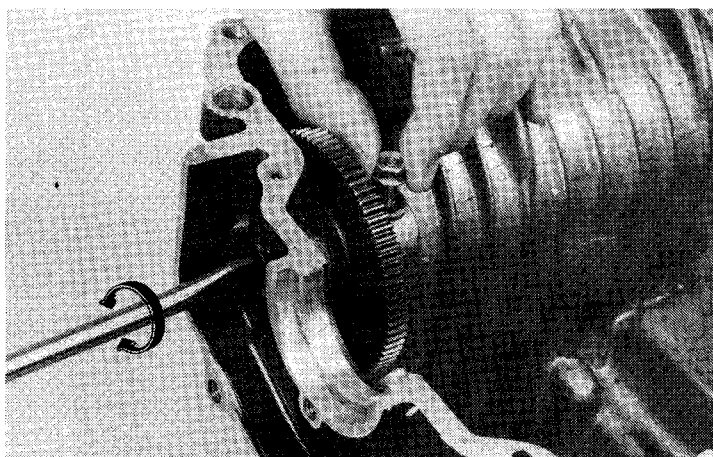
Install the O-ring on the idle gear shaft.

Install the shaft and gear in the case.

NOTE

Align the bolt hole in the shaft with the hole in the case by rotating the shaft with a screwdriver.

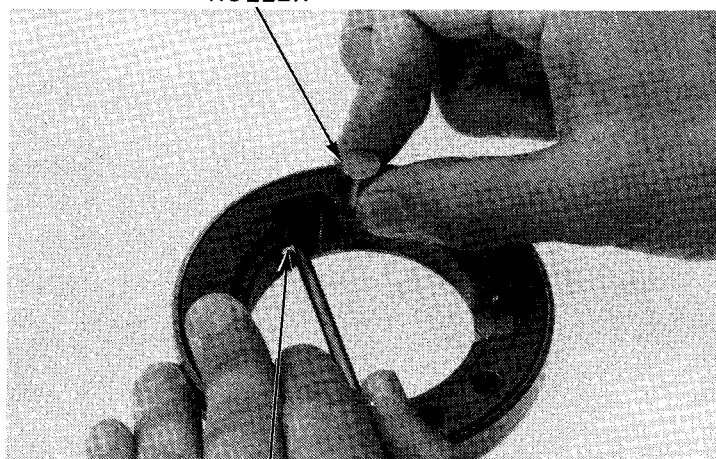
Install the bolt and tighten securely.



ELECTRIC STARTER CLUTCH/CRANKSHAFT INSTALLATION

Install the springs, plungers and rollers.

ROLLER



PLUNGER



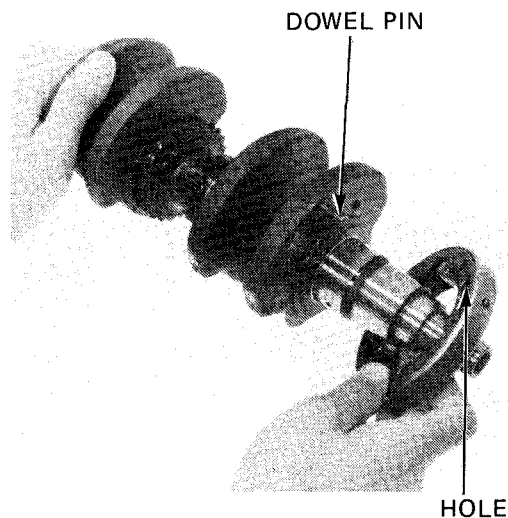
Align the hole in the starter clutch with the dowel pin on the crankweight, and install the starter clutch.

Tighten the torx bolts with the Torx driver bit (07703-0010200).

TORQUE: 12–14 N·m (1.2–1.4 kg-m, 9–10 ft-lb)

NOTE

Apply a locking agent to the bolt threads.



Install the starter gear while rotating it by hand.

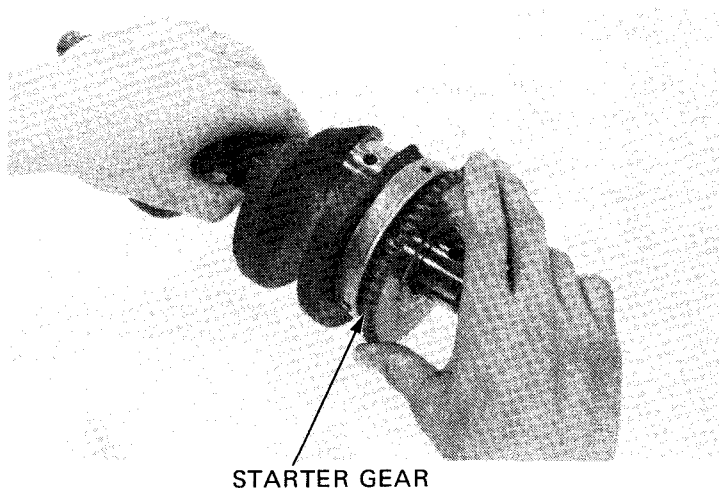
Install the oil seal on the crankshaft.

Install the cam chain on the crankshaft.

Lay the crankshaft in the crankcase.

NOTE

Lubricate each journal and crankpin with molybdenum disulfide grease.

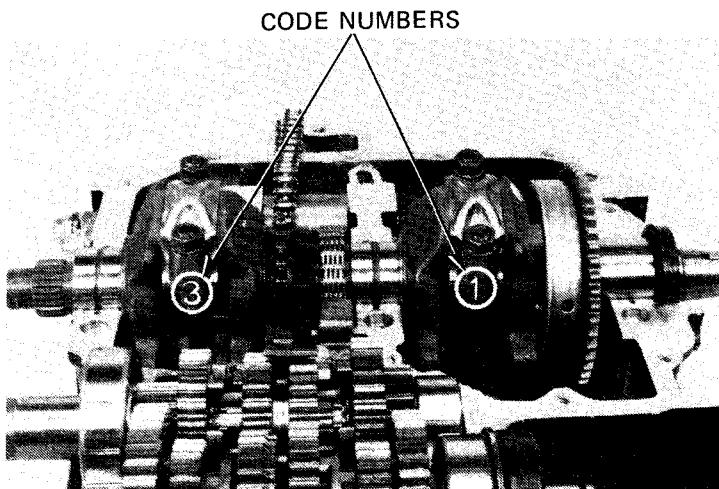


CONNECTING ROD INSTALLATION

Install the connecting rods and bearing caps.

NOTE

- Be sure connecting rods are installed in their correct position and the code numbers face to the rear.
- Cross reference the rod and cap I.D. codes to ensure the original assembly.
- Do not interchange the right and left components.

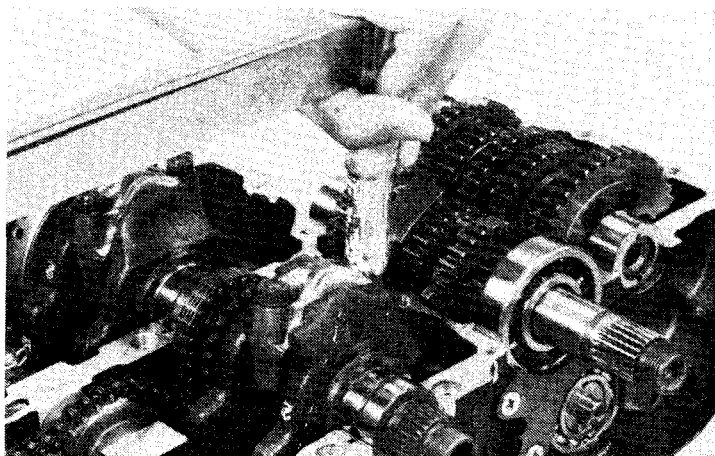


Torque the connecting rod bearing cap bolts.

TORQUE: 25–29 N·m (2.5–2.9 kg·m, 18–21 ft·lb)

NOTE

- Tighten the rod bearing cap bolts in two or more steps.
- After tightening the bolts, check that the rod moves freely without binding.

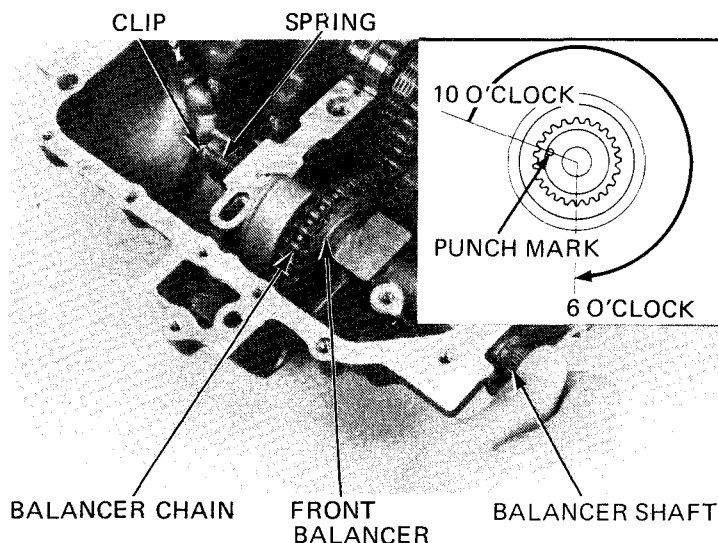


BALANCER INSTALLATION

Assemble the front balancer, balancer chain and front balancer shaft.

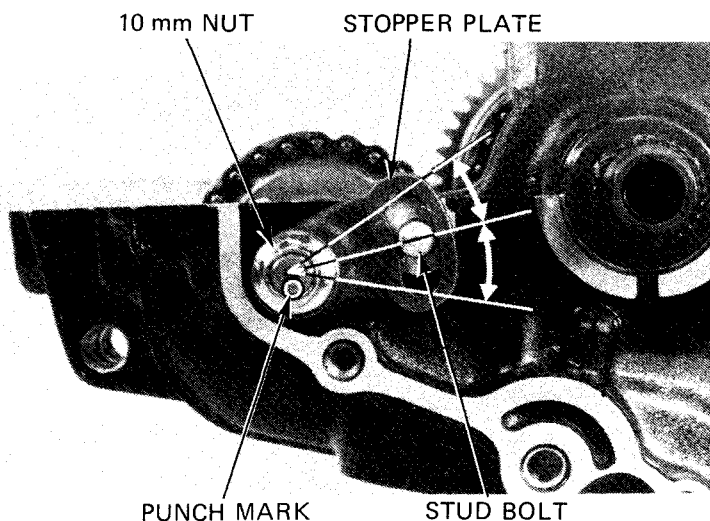
Position the punch mark on the end of the shaft at about 10 o'clock as shown, and install the spring.

Rotate the shaft clockwise to 6 o'clock.



Install the stopper plate with the stud bolt centered in the plate groove.

Temporarily tighten the 10 mm nut.

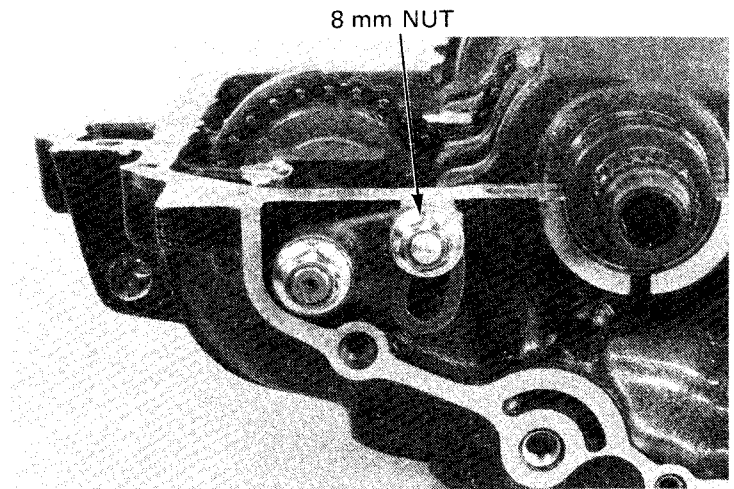




NOTE

Rotate the stopper plate clockwise fully.

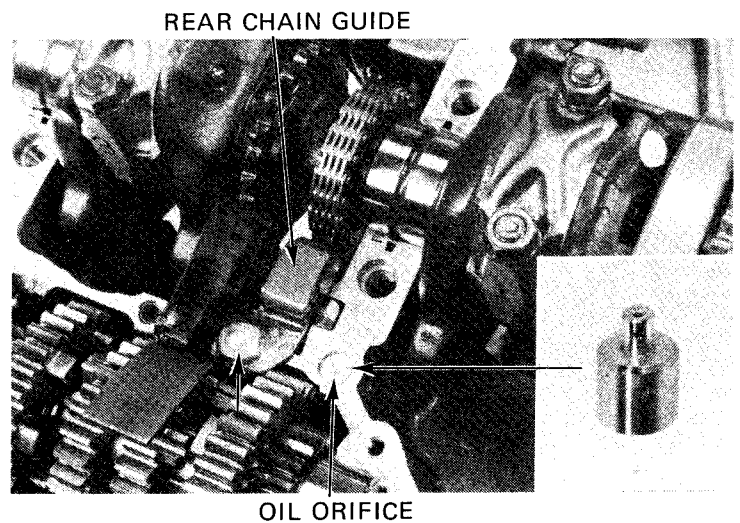
Torque the 8 mm nut.



Assemble the rear chain guide and oil orifice.

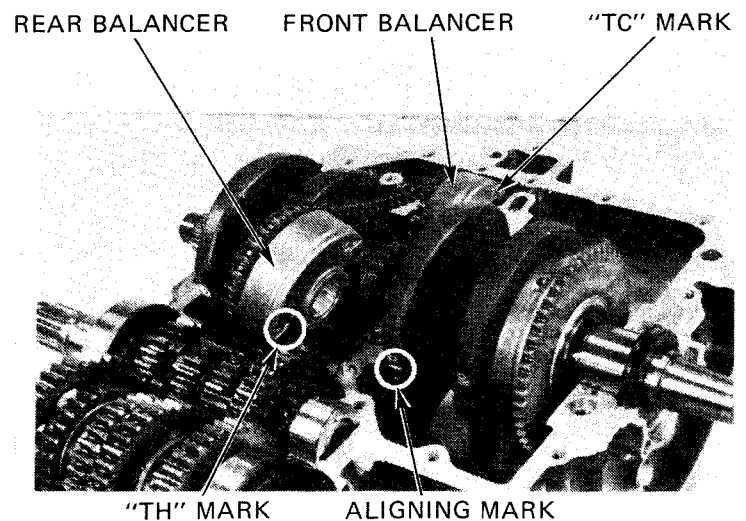
NOTE

Be sure the oil orifice is not clogged.

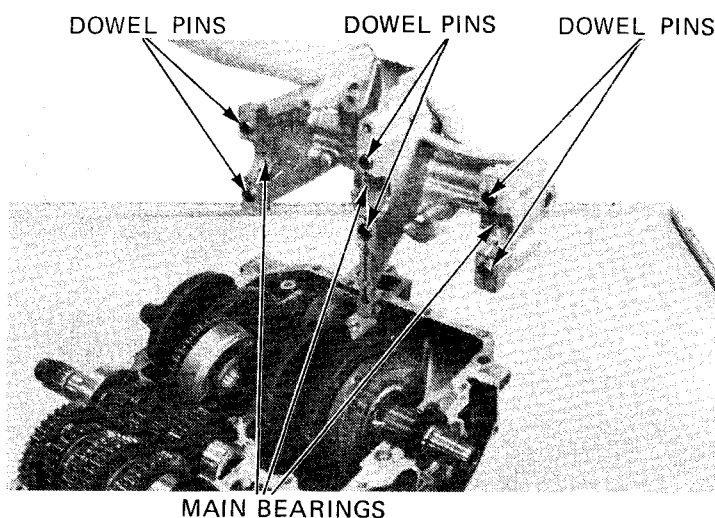


Align the front balancer "TC" mark and crankshaft aligning mark with the end of the crankcase.

Install the chain so that the rear balancer "TH" mark is flush with the end of the crankcase.



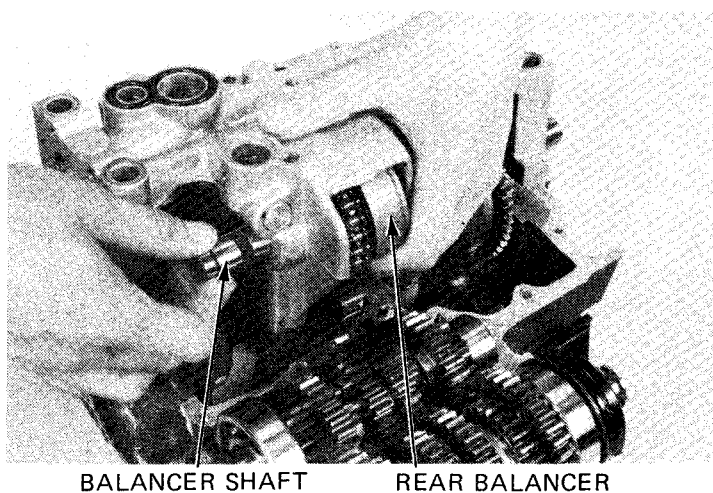
Be sure the dowel pins and bearing inserts are in place in the holder.



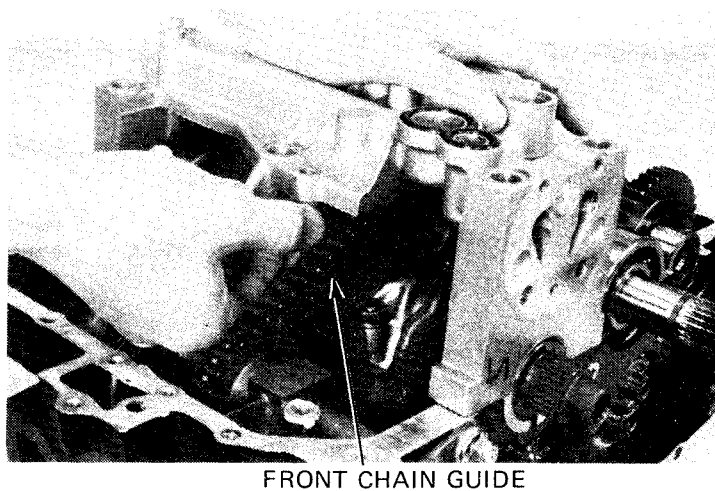
Install the rear balancer on the bearing holder with the shaft.

NOTE

Do not disturb the installation of the balancer chain on the sprocket during this operation.



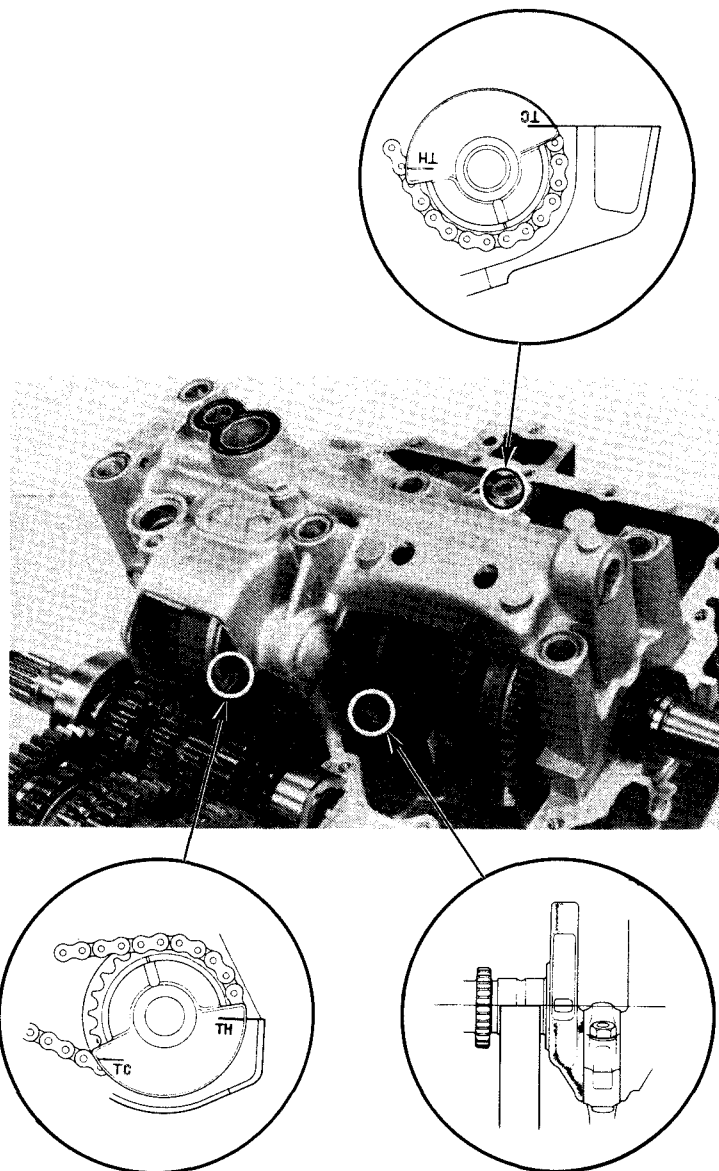
Install the front chain guide.





Lay the bearing holders over the crankshaft main journals.

With the front balancer "TC" mark flush with the end of the crankcase, check that the rear balancer "TH" mark is in line with the bearing holder shoulder and that the crankweight mark is flush with the end of the crankcase.



Tighten the bearing holder in the sequence shown.

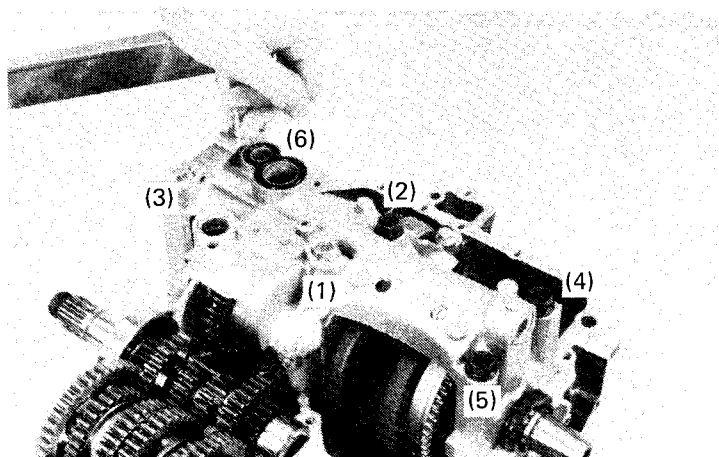
TORQUE:

10 mm BOLT: 33–37 N·m (3.3–3.7 kg·m,
24–27 ft·lb)

6 mm BOLT: 10–14 N·m (1.0–1.4 kg·m,
7–10 ft·lb)

NOTE

- Torque the holder bolts in two or more steps and in a crisscross pattern shown.
- Make sure the crankshaft rotates freely without binding.





CRANKSHAFT/BALANCER

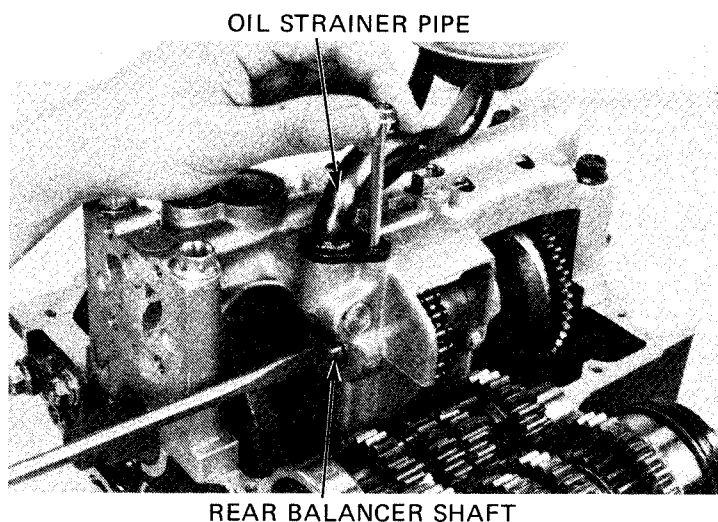
Slide the O-ring over the oil strainer pipe.

Align the bolt hole in the rear balancer shaft with the hole in the case by rotating the shaft.

Torque the front chain guide bolts.

NOTE

The rear bolt should be tightened with the oil strainer installed.



Loosen the 8 mm nut.

NOTE

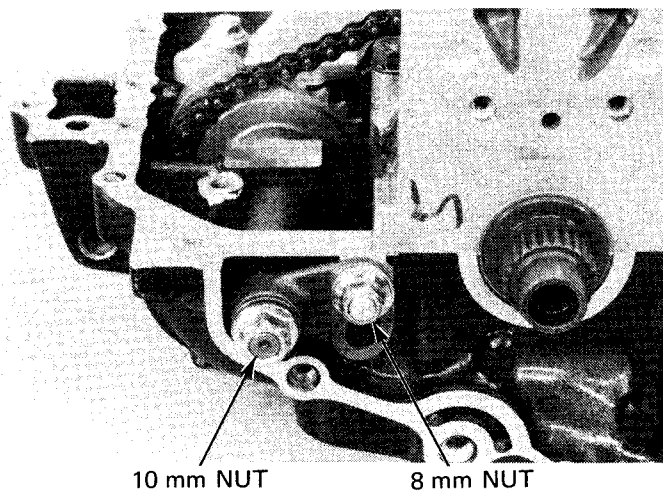
- The balancer chain tension will be adjusted automatically by loosening the 8 mm nut.
- If the balancer chain slack is excessive so that no further adjustment is possible, refer to page 3-7.

Tighten the 8 mm nut first.

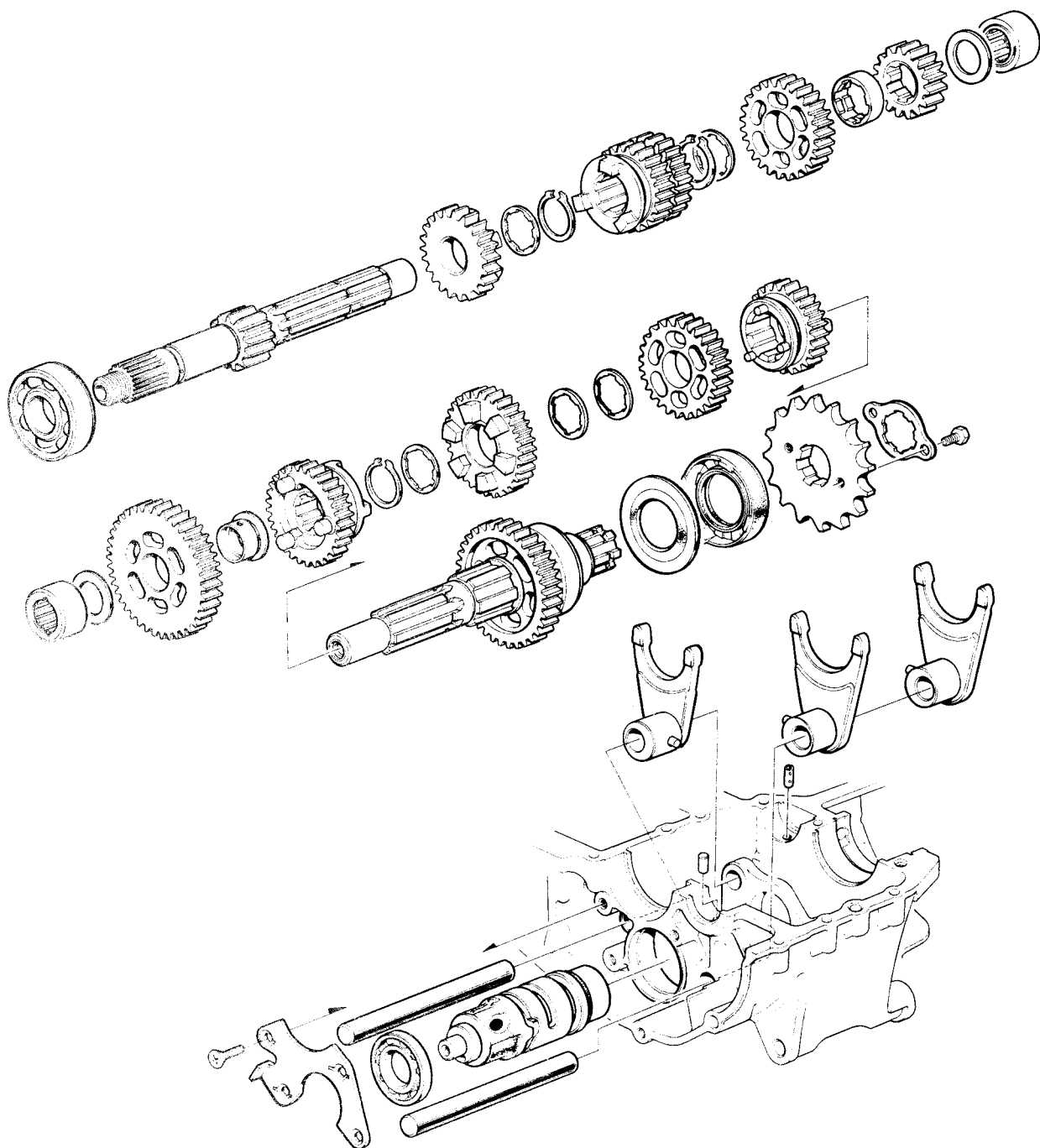
TORQUE: 20–25 N·m (2.0–2.5 kg-m, 14–18 ft-lb)

Tighten the 10 mm nut.

TORQUE: 30–35 N·m (3.0–3.5 kg-m, 22–25 ft-lb)



CB450T, CM450C/E





SERVICE INFORMATION	14-1
TROUBLESHOOTING	14-2
CB450T, CM450C/E:	
TRANSMISSION DISASSEMBLY	14-3
SHIFT FORK AND SHIFT DRUM	14-5
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CM450A:	
TRANSMISSION DISASSEMBLY	14-11
SHIFT FORK AND SHIFT DRUM	14-13
TRANSMISSION ASSEMBLY	14-15

SERVICE INFORMATION

GENERAL

- The gearshift linkage and CM450A kick starter can be serviced with the engine in the frame (Section 11).
- For internal transmission repairs, the crankcase must be separated (Section 12).

SPECIFICATIONS

CB450T, CM450C/E

14

			STANDARD	SERVICE LIMIT
Transmission	Backlash	Low, 2nd, 3rd, 4th	0.047— 0.142 mm (0.0019—0.0056 in)	0.20 mm (0.008 in)
		5th, Top	0.050— 0.150 mm (0.0020—0.0059 in)	0.20 mm (0.008 in)
	Gear I.D.	M5, C3, C4	25.020—25.041 mm (0.9850—0.9859 in)	25.10 mm (0.988 in)
		M6	28.020—28.041 mm (1.1031—1.1040 in)	28.10 mm (1.106 in)
		C1	24.020—24.041 mm (0.9457—0.9465 in)	24.10 mm (0.949 in)
	Gear bushing O.D.	M6	27.959—27.980 mm (1.1007—1.1016 in)	27.93 mm (1.100 in)
		C1	23.984—24.005 mm (0.9443—0.9451 in)	23.95 mm (0.043 in)
	Gear bushing I.D.	C1	20.020—20.041 mm (0.7882—0.7890 in)	20.10 mm (0.791 in)
	Mainshaft O.D.		24.959—24.980 mm (0.9826—0.9835 in)	24.93 mm (0.981 in)
	Countershaft O.D.	C3, C4	24.959—24.980 mm (0.9826—0.9835 in)	24.93 mm (0.981 in)
		C1	19.987—20.000 mm (0.7869—0.7874 in)	19.95 mm (0.785 in)
	Gear to shaft clearance	M5, C3, C4	0.040— 0.082 mm (0.0016—0.0032 in)	0.10 mm (0.004 in)
		M6	0.040— 0.082 mm (0.0016—0.0032 in)	0.10 mm (0.004 in)
	Gear to bushing clearance	C1	0.015— 0.047 mm (0.0006—0.0019 in)	0.07 mm (0.003 in)



			STANDARD	SERVICE LIMIT
Shift drum	O.D.		34.950–34.975 mm (1.3760–1.3770 in)	34.90 mm (1.374 in)
	Case I.D.		35.000–35.025 mm (1.3780–1.3789 in)	35.05 mm (1.380 in)
Shift fork	Claw thickness	M3	5.93–6.00 mm (0.234–0.236 in)	5.85 mm (0.230 in)
		C5, C6	4.93–5.00 mm (0.194–0.197 in)	4.85 mm (0.191 in)
	Shift fork I.D.		13.000–13.018 mm (0.5118–0.5125 in)	13.05 mm (0.514 in)
Fork shaft	O.D.		12.966–12.984 mm (0.5105–0.5112 in)	12.95 mm (0.510 in)

CM450A

			STANDARD	SERVICE LIMIT
Transmission	Gear backlash		0.045– 0.140 mm (0.0018–0.0055 in)	0.20 mm (0.008 in)
	Minimum clearance at end of dog		—	0.30 mm (0.012 in)
	Stator shaft bushing I.D.		16.000–16.018 mm (0.6299–0.6306 in)	16.05 mm (0.632 in)
	Mainshaft O.D.		15.966–15.984 mm (0.6286–0.6293 in)	15.95 mm (0.628 in)
	Countershaft O.D.		19.980–19.993 mm (0.7866–0.7871 in)	19.95 mm (0.785 in)
			24.994–25.007 mm (0.9840–0.9845 in)	24.97 mm (0.983 in)
	Gear shifter groove width		6.10– 6.18 mm (0.240–0.243 in)	6.4 mm (0.25 in)
	Gear damper spring	Free length	13.89–14.70 mm (0.547–0.579 in)	13.3 mm (0.52 in)
		Tension	20.25–20.40 kg/11.5 mm (44.64–44.97 lbs/0.453 in)	18 kg/11.5 mm (40 lbs/0.453 in)
Shift drum Shift fork	Top gear center I.D.		30.014–30.027 mm (1.1817–1.1822 in)	30.04 mm (1.183 in)
	Gearshift roller pin O.D.		5.95– 6.00 mm (0.234–0.236 in)	5.93 mm (0.233 in)
	Gearshift roller	I.D.	6.05– 6.10 mm (0.238–0.240 in)	6.15 mm (0.242 in)
		O.D.	9.90–10.00 mm (0.390–0.394 in)	9.80 mm (0.386 in)
	Shift fork shaft O.D.		12.973–12.984 mm (0.5107–0.5112 in)	12.97 mm (0.511 in)
	Shift fork	Pawl thickness	5.89–5.99 mm (0.232–0.236 in)	5.8 mm (0.228 in)
Shift drum groove width			10.05–10.15 mm (0.396–0.400 in)	10.4 mm (0.41 in)

TROUBLESHOOTING

CB450T, CM450C/E

Hard to shift

1. Improper clutch adjustment: too much free play
2. Shift fork bent
3. Shift shaft bent
4. Shift claw bent
5. Shift drum cam grooves damaged

Transmission jumps out of gear

1. Gear dogs worn
2. Shift shaft bent
3. Shift drum stopper broken
4. Shift forks bent

CM450A

Hard to shift into "1" or "2".

1. Damaged gearshift roller pin
2. Damaged gearshift pin
3. Damaged "1" or "2" gearshift plate and shifter dog
4. Damaged gearshift arm.

Engine can be kick started in "1" or "2" range

1. Damaged kick inhibitor arm
2. Kick inhibitor arm out of position

Transmission jumps out of gear:

1. Shift drum stopper roller cam plate loose
2. Shift drum stopper spring damaged or weakened
3. Shift drum stopper cam plate bent or damaged
4. Drum stopper plate bent
5. Shift drum damaged
6. "1" or "2" gearshifter plate or shifter dog abnormally worn



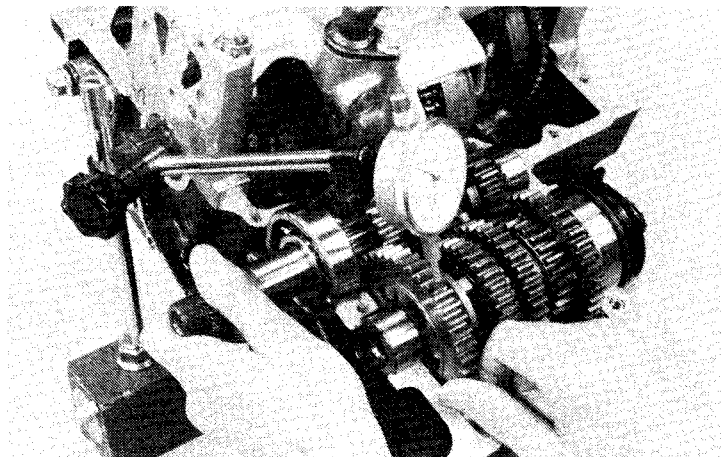
CB450T, CM450C/E TRANSMISSION DISASSEMBLY

Separate the crankcases (Section 12).

Inspect each gear for backlash.

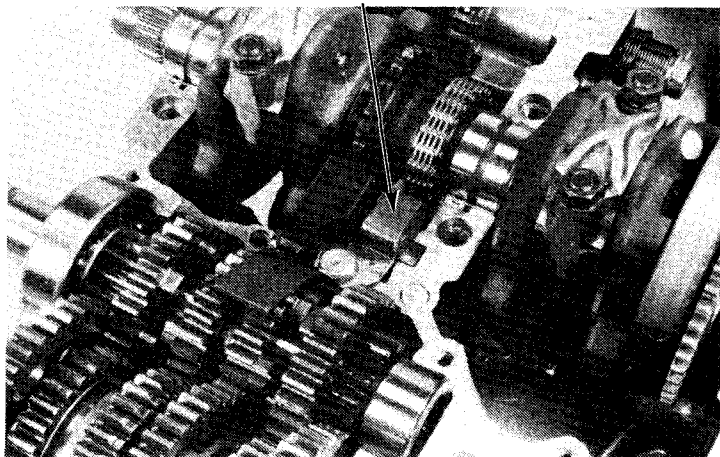
SERVICE LIMIT: 0.02 mm (0.008 in)

Remove the crankshaft bearing holders (Section 13).



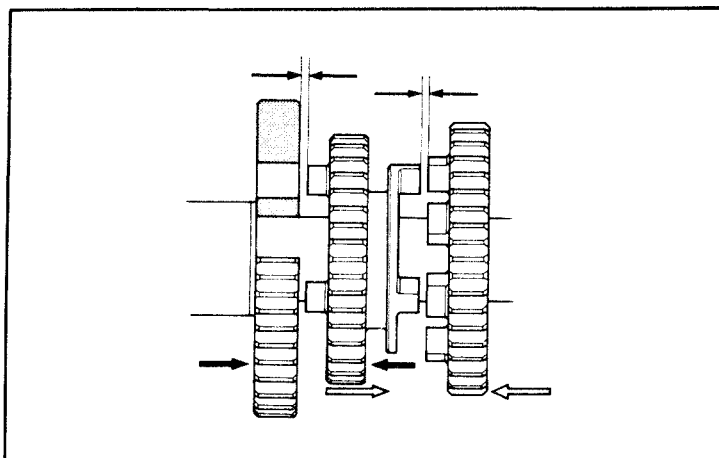
REAR BALANCER CHAIN GUIDE

Remove the rear balancer chain guide.



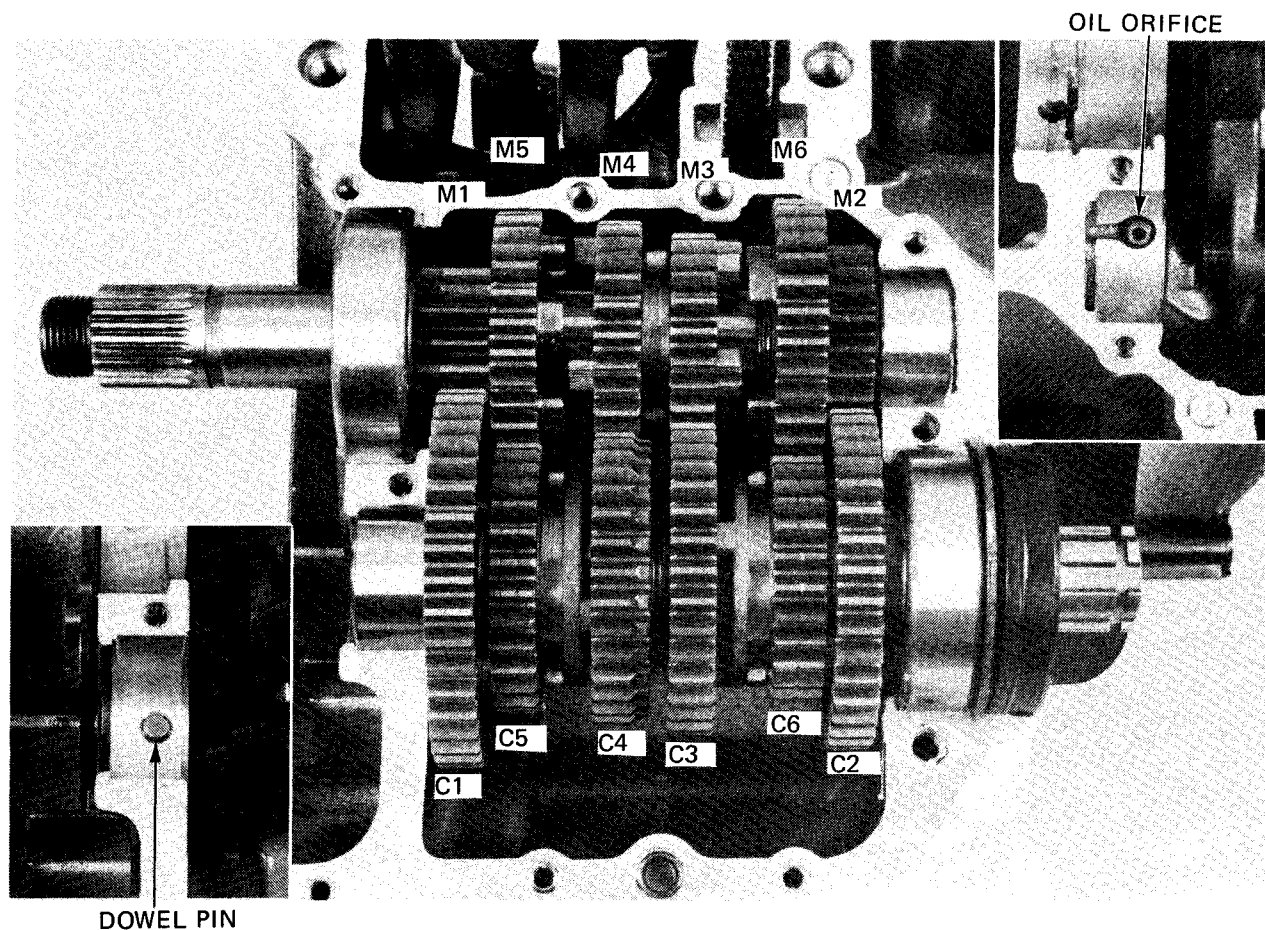
Place the gears into neutral, and check each gear dog for minimum clearance.

SERVICE LIMIT: 0.30 mm (0.012 in)



Remove the main- and countershafts.

Lift out the oil orifice and dowel pin.



TRANSMISSION INSPECTION

Check gear dogs for excessive or abnormal wear.

Inspect the I.D. of each gear.

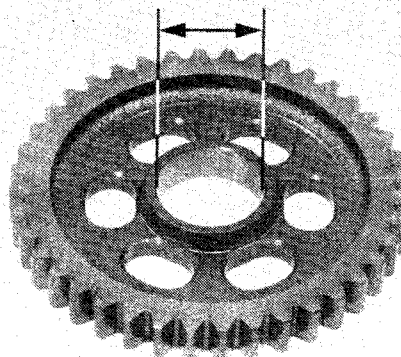
SERVICE LIMITS:

M5, C3 and C4 GEARS:

25.10 mm (0.988 in)

M6 GEAR: 28.10 mm (1.106 in)

C1 GEAR : 24.10 mm (0.949 in)





Measure the I.D. and O.D. of the countershaft low gear (C1) bushing.

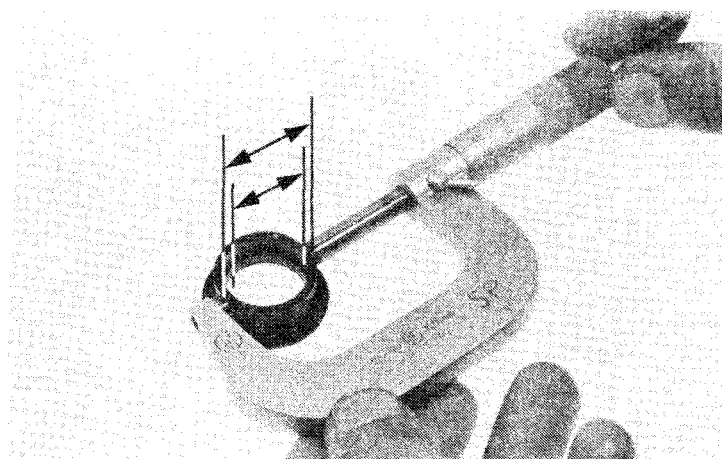
SERVICE LIMITS:

I.D. : 20.06 mm (0.790 in)

O.D. : 23.95 mm (0.943 in)

Measure the O.D. of the mainshaft sixth gear (M6) bushing.

SERVICE LIMIT: 27.93 mm (1.100 in)



Measure the O.D. of the main- and countershafts.

SERVICE LIMITS:

A: 24.93 mm (0.981 in)

B: 24.93 mm (0.981 in)

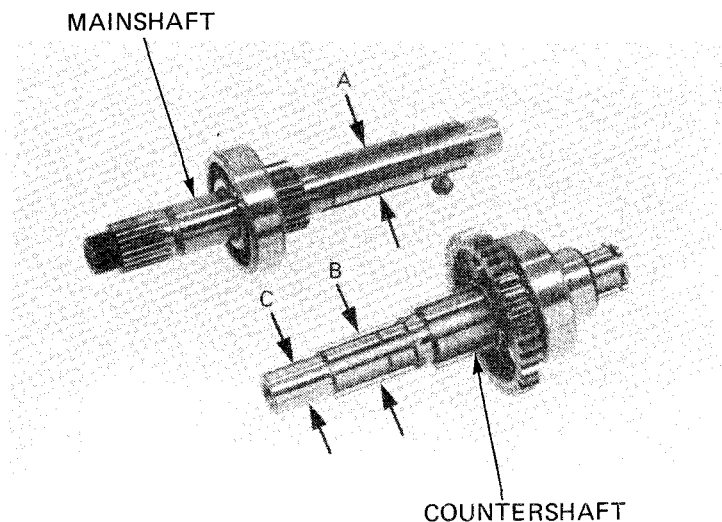
C: 19.95 mm (0.786 in)

Calculate the clearance between the gear and gear shaft or bushing.

SERVICE LIMITS:

M5, M6, C3 and C4 GEARS:
0.10 mm (0.004 in)

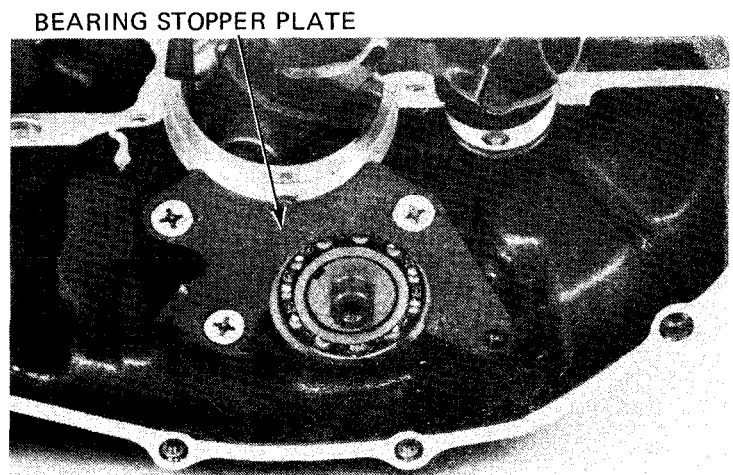
C1 GEAR: 0.07 mm (0.003 in)



SHIFT FORK AND SHIFT DRUM

REMOVAL

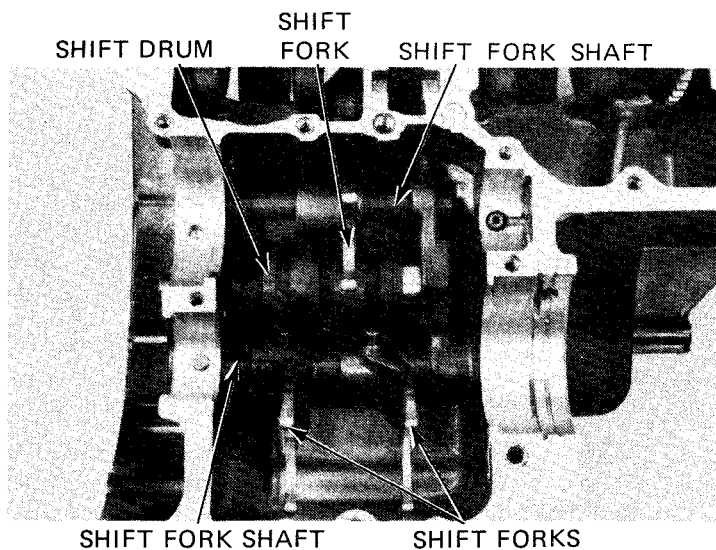
Remove the bearing stopper plate.



TRANSMISSION

Remove the shift fork shafts and shift forks.

Remove the shift drum.

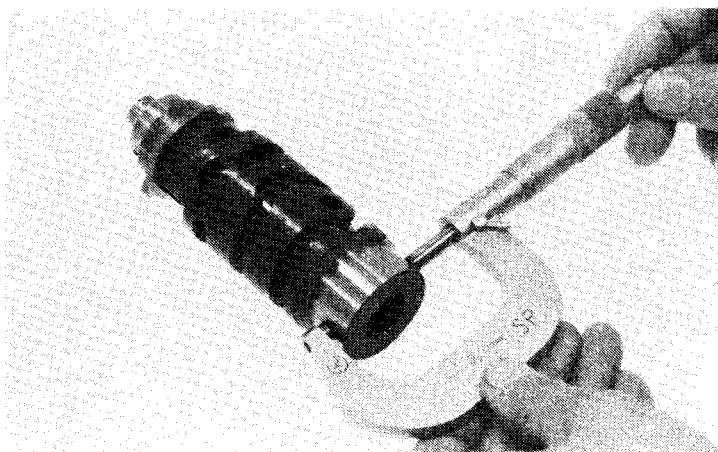


INSPECTION

Check the shift drum grooves for damage.

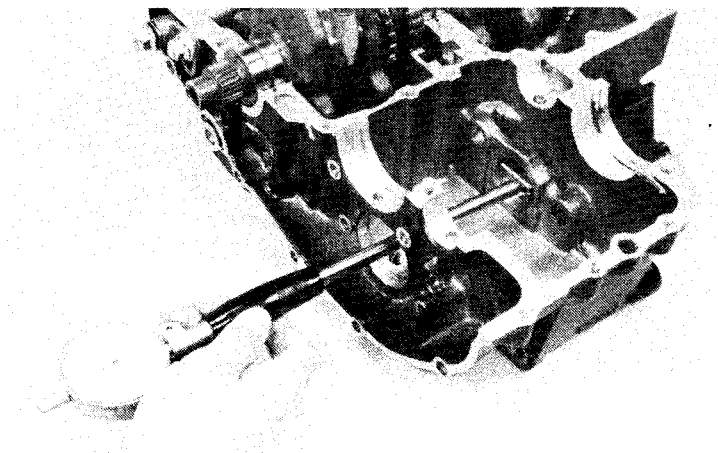
Measure the shift drum O.D.

SERVICE LIMIT: 34.90 mm (1.374 in)



Measure the case I.D.

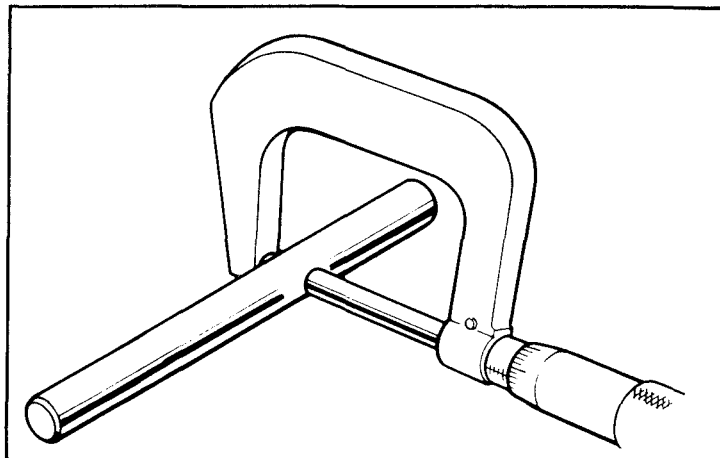
SERVICE LIMIT: 35.05 mm (1.380 in)





Measure the shift fork shaft O.D.

SERVICE LIMIT: 12.95 mm (0.510 in)



Measure the shift fork I.D. and claw thickness.

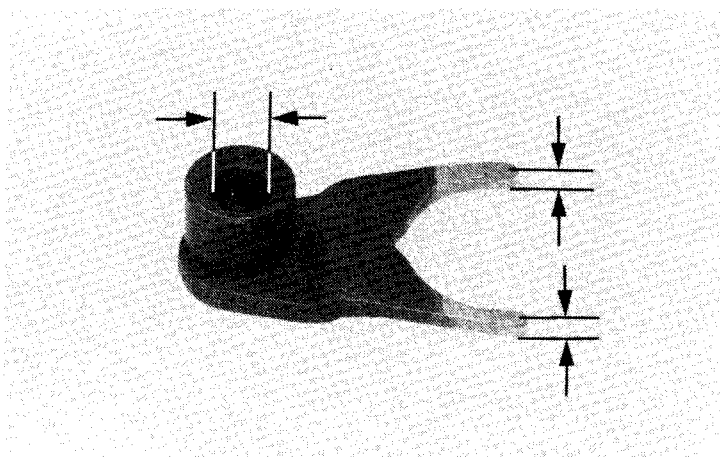
SERVICE LIMITS:

I.D.: 13.05 mm (0.514 in)

CLAW THICKNESS:

M3 GEAR: 5.85 mm (0.230 in)

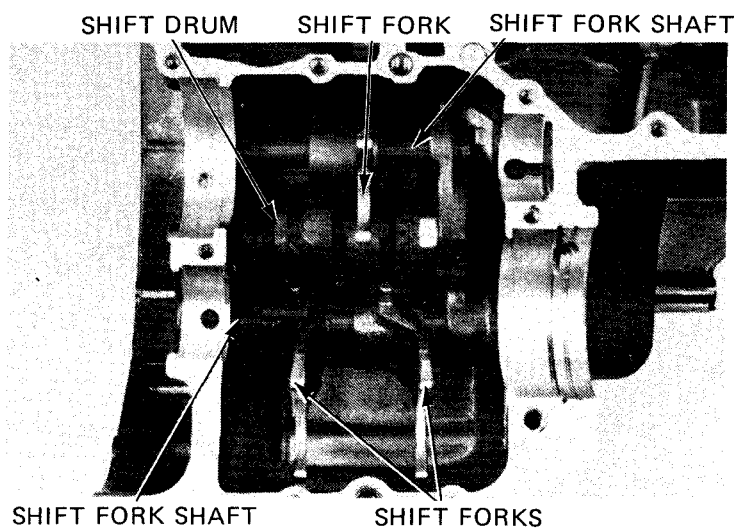
C5 and C6 GEARS: 4.85 mm (0.191 in)



INSTALLATION

Install the shift drum.

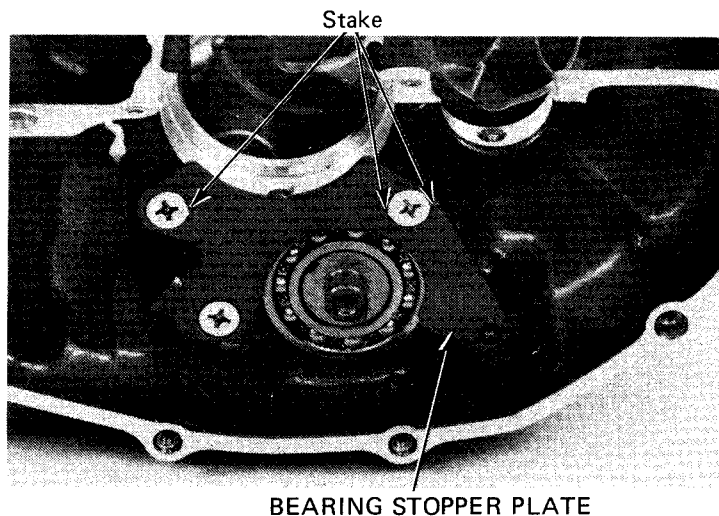
Install the shift forks and shafts.





Install the bearing stopper plate.

Stake the edge of each screw against the groove in the stopper plate.

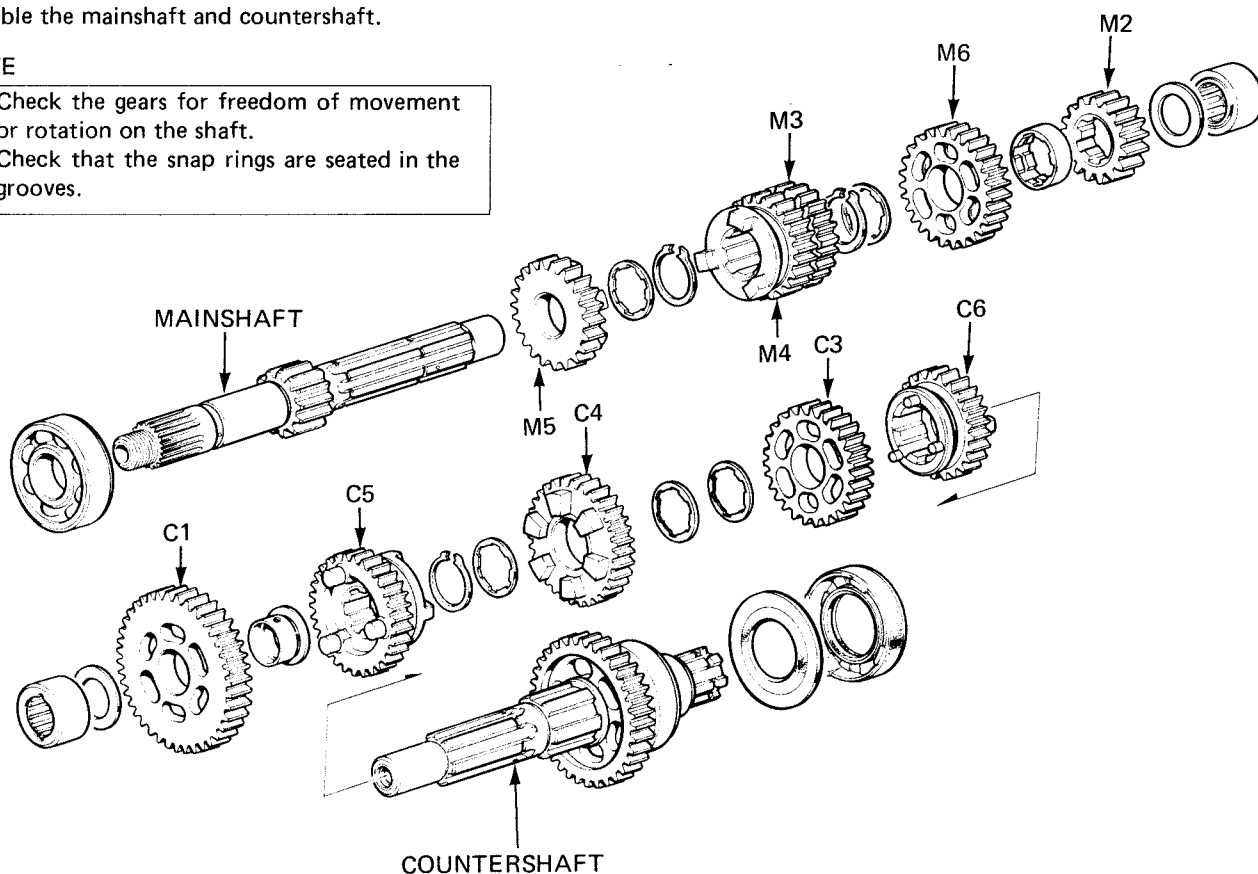


TRANSMISSION ASSEMBLY

Assemble the mainshaft and countershaft.

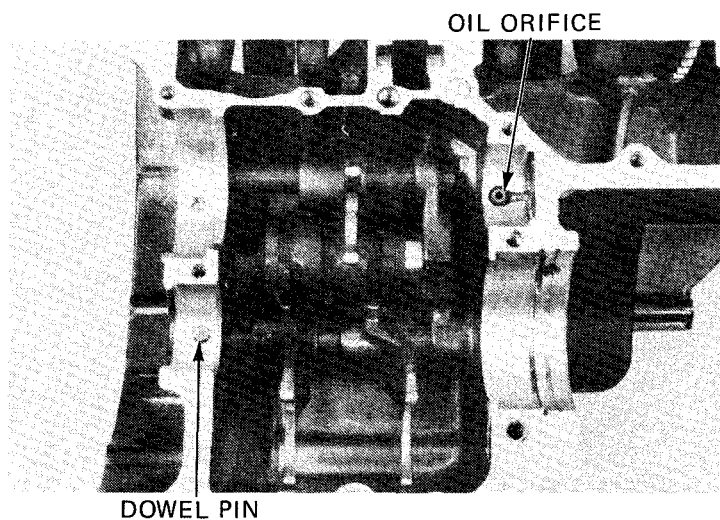
NOTE

- Check the gears for freedom of movement or rotation on the shaft.
- Check that the snap rings are seated in the grooves.





Install the dowel pin and oil control orifice.

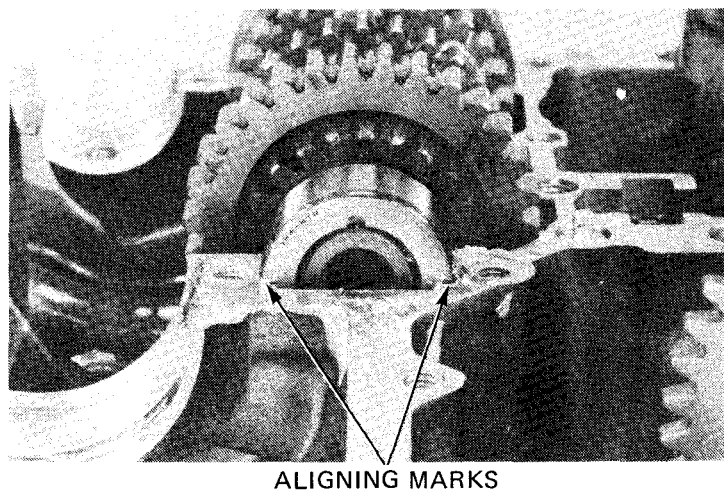


Assemble the main shaft.

Install the shaft with the needle bearing hole facing down.

NOTE

Check that the aligning marks on the bearing are flush with the end of the crankcase.

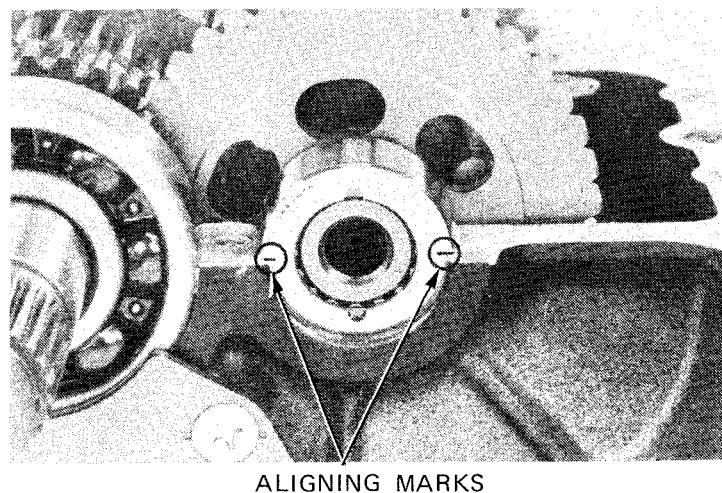


Install the countershaft.

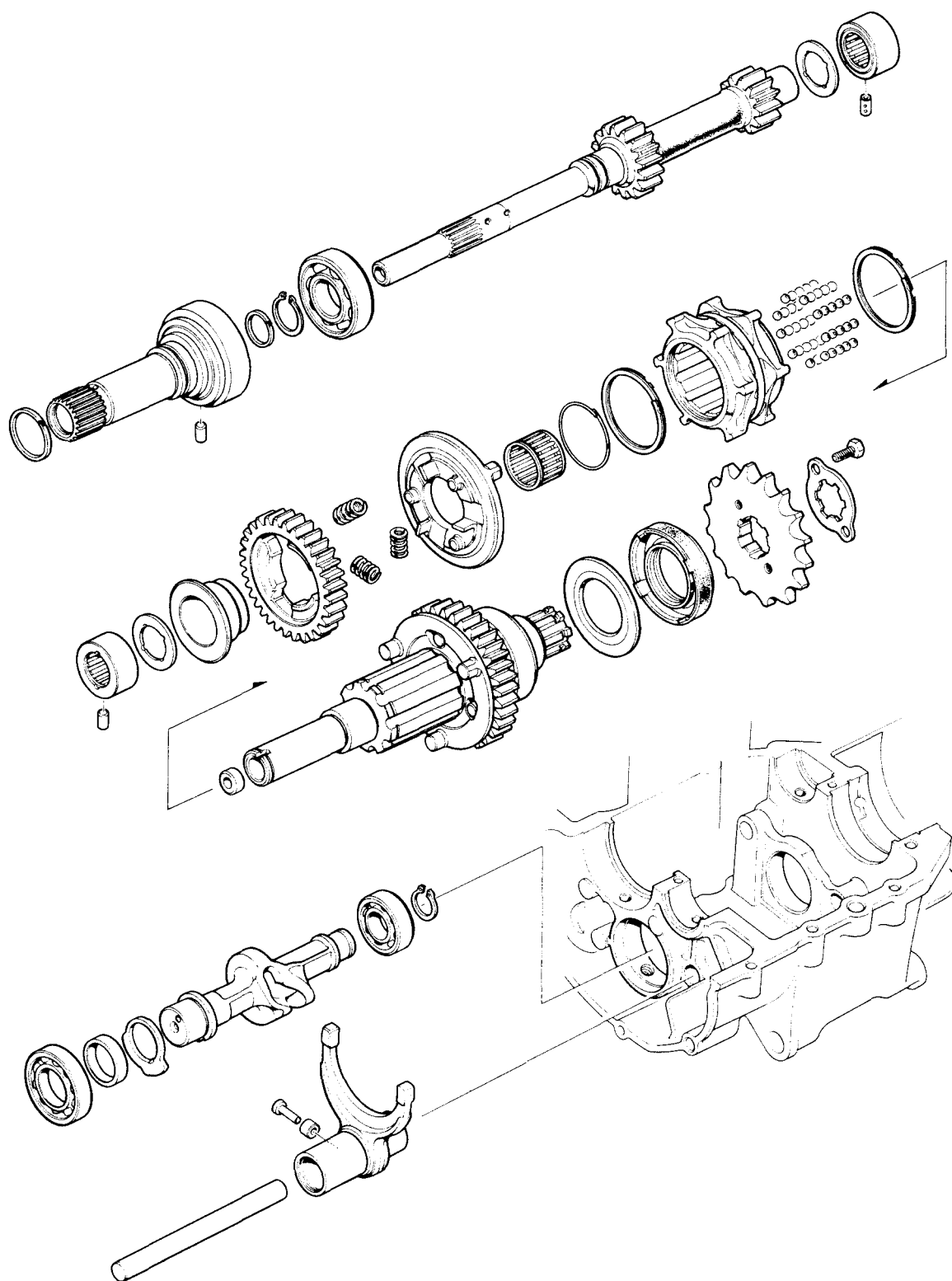
Align the marks on the needle roller bearing with the end of the case, and then fit the hole in the bearing over the dowel pin.

Install the rear balancer chain guide and bearing holder (Section 13).

Install the lower crankcase (Section 12).



CM450A





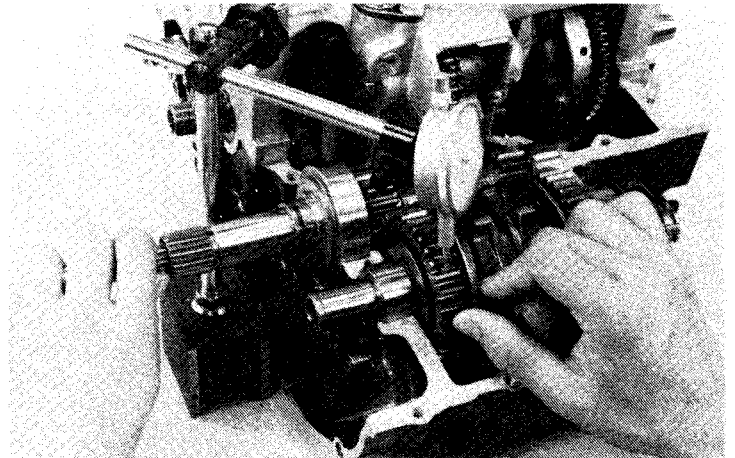
CM450A

TRANSMISSION DISASSEMBLY

Separate the crankcase halves (Section 12).

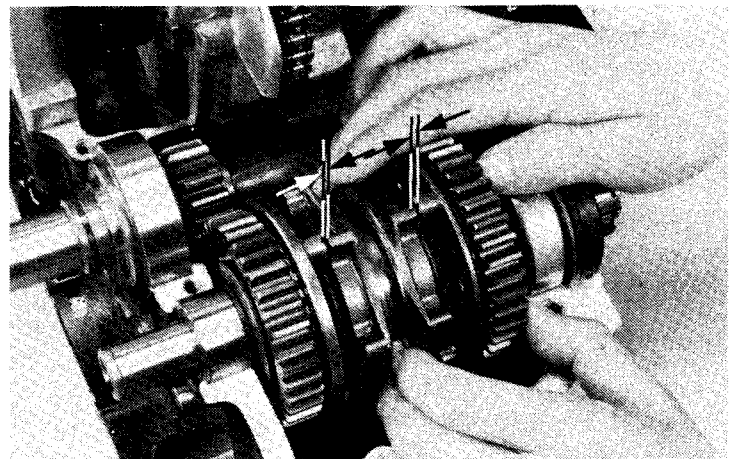
Check gears for backlash.

SERVICE LIMIT: 0.20 mm (0.008 in)



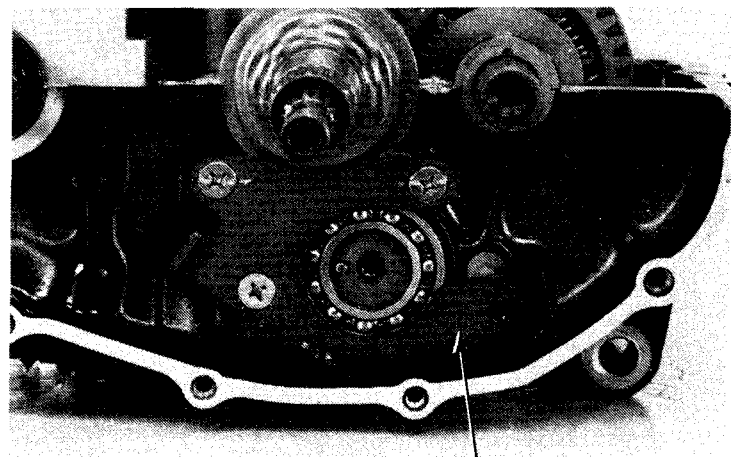
Set the gears in neutral and measure the gear dog minimum clearance on "1" and "2" ranges.

SERVICE LIMIT: 0.30 mm (0.012 in)



Remove the drum stopper plate.

Check the plate for bending (play in the drum thrust direction).

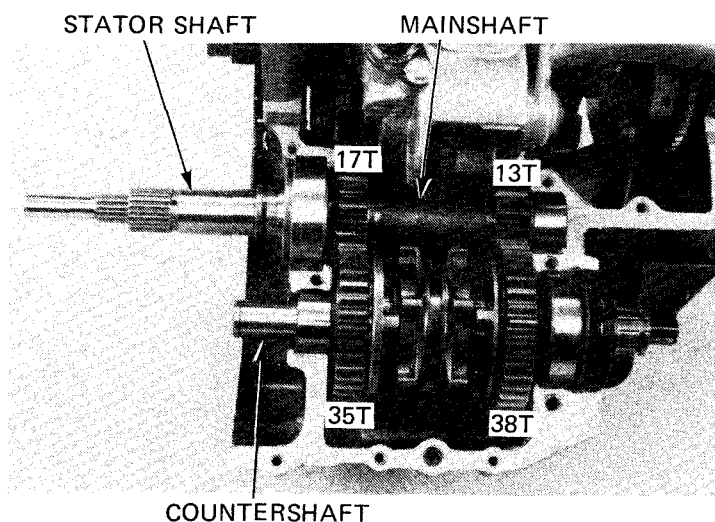


DRUM STOPPER PLATE



TRANSMISSION

Remove the mainshaft, countershaft and stator shaft.



Separate the stator shaft from the mainshaft.

Remove the needle bearing and ball bearings.

Check bearings for damage or play.

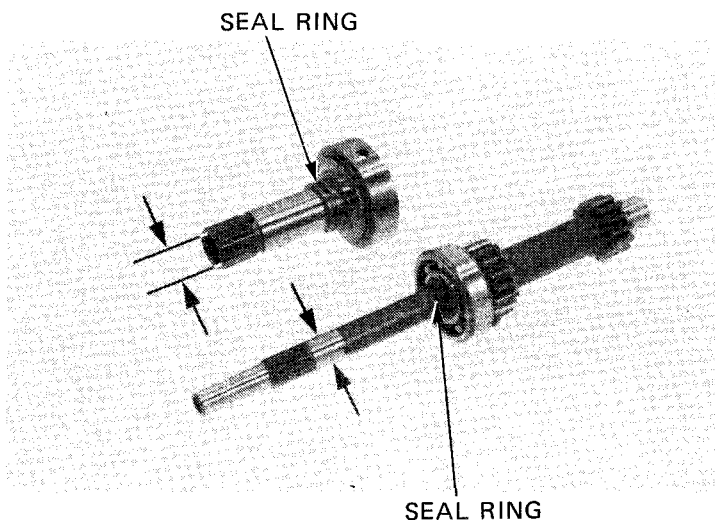
Check the seal ring for damage or wear.

Measure the stator shaft bushing I.D.

SERVICE LIMIT: 16.05 mm (0.632 in)

Measure the mainshaft O.D.

SERVICE LIMIT: 15.95 mm (0.628 in)



Remove the oil seal, needle bearing and 2nd gear from the countershaft.

Check the needle roller bearing for play or damage.

Remove the clip, gear shifter, and forty five steel balls.

NOTE

Keep the steel balls in a parts rack so that they are not scattered and lost.

Check the balls and splines for wear or damage.

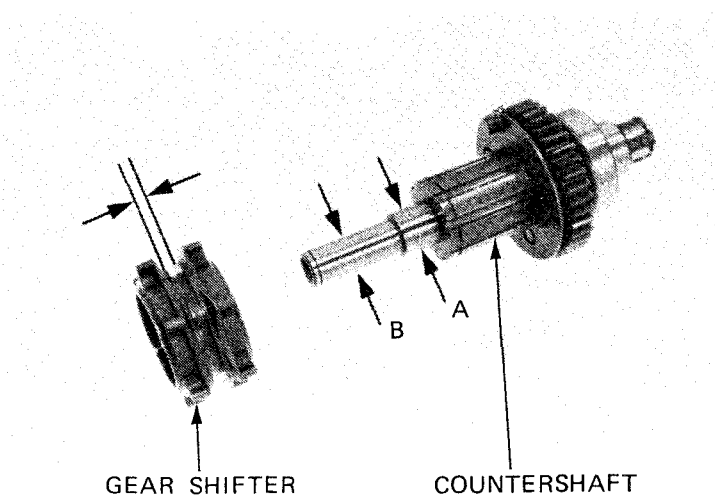
Measure the countershaft O.D.

SERVICE LIMITS: A: 24.97 mm (0.983 in)

B: 19.95 mm (0.785 in)

Measure the gear shifter width.

SERVICE LIMIT: 6.4 mm (0.25 in)





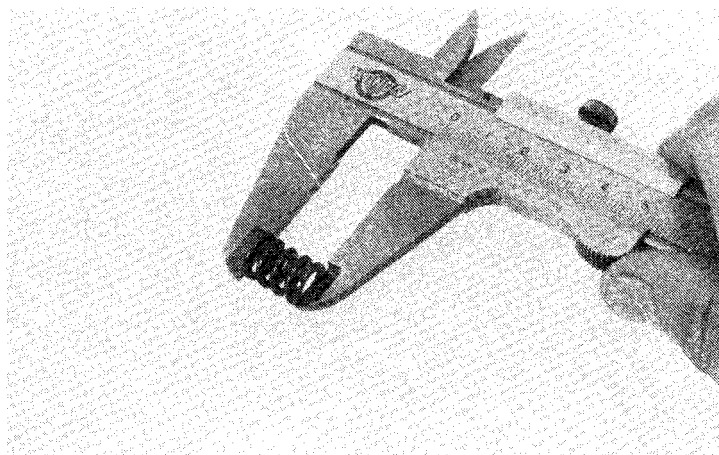
Remove the gear center, damper springs and shifter plate from the 2nd speed gear.

Check the gear shifter and shifter plate dogs for wear.

Check the springs for free length.

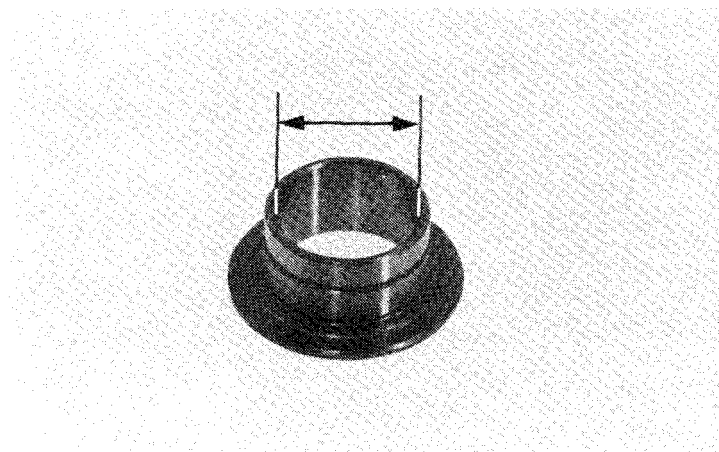
Measure the spring free length.

SERVICE LIMIT: 13.3 mm (0.52 in)



Measure the gear center I.D.

SERVICE LIMIT: 30.04 mm (1.183 in)

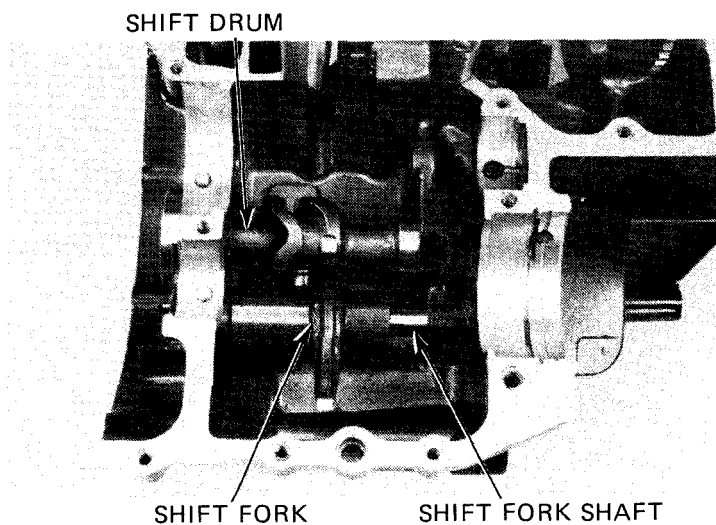


SHIFT FORK AND SHIFT DRUM

REMOVAL

Remove the shift fork shaft and shift fork.

Remove the shift drum.





Remove the gearshift roller pin and roller.

Measure the roller pin O.D.

SERVICE LIMIT: 5.93 mm (0.233 in)

Measure the roller O.D. and I.D.

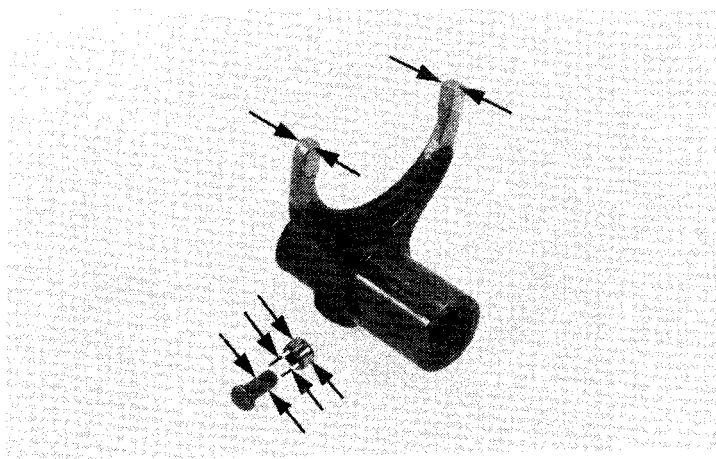
SERVICE LIMITS: O.D.: 9.8 mm (0.39 in)

I.D. : 6.15 mm (0.242 in)

Inspect the ball bearings in the shift fork for play or damage.

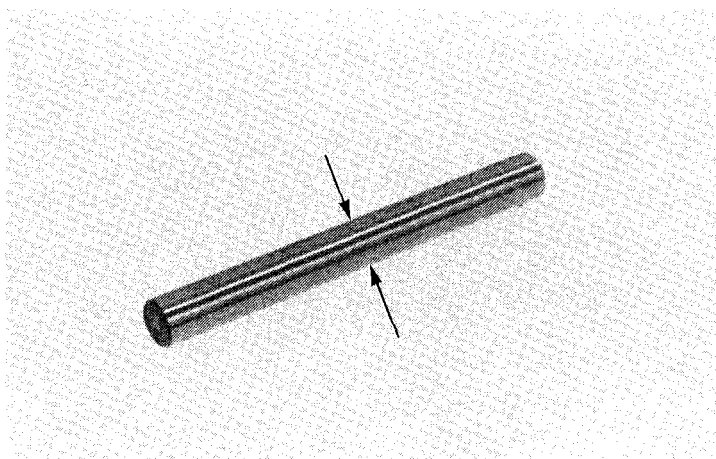
Measure the shift fork pawl thickness.

SERVICE LIMIT: 5.80 mm (0.228 in)



Measure the shift fork shaft O.D.

SERVICE LIMIT: 12.97 mm (0.511 in)

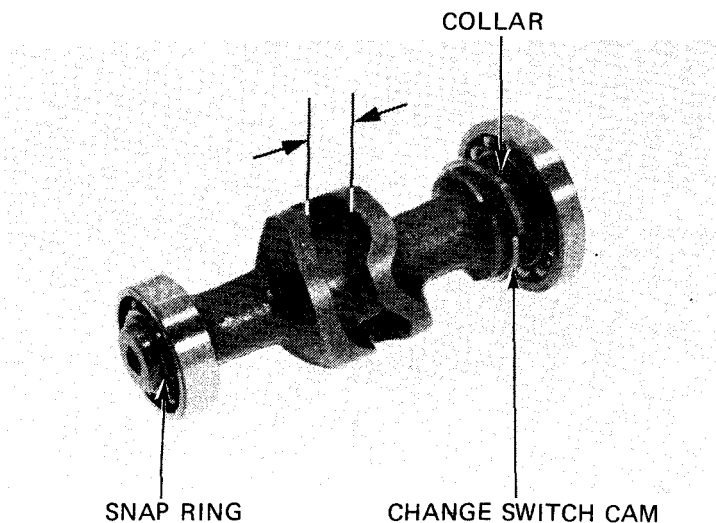


Remove the bearings, distance collar and change switch cam from the shift drum.

Check the bearings for wear or damage.

Measure the gearshift roller guide groove width.

SERVICE LIMIT: 10.4 mm (0.41 in)

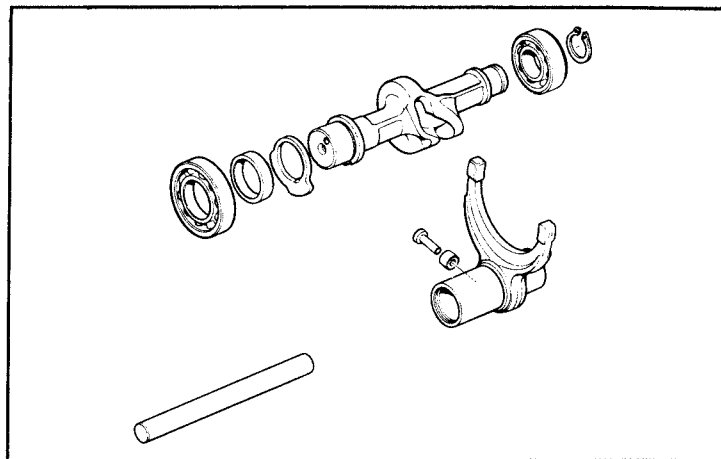




INSTALLATION

Assemble the shift drum, then install the drum in the crankcase.

Install the shift fork, fork shaft, guide roller and pin.

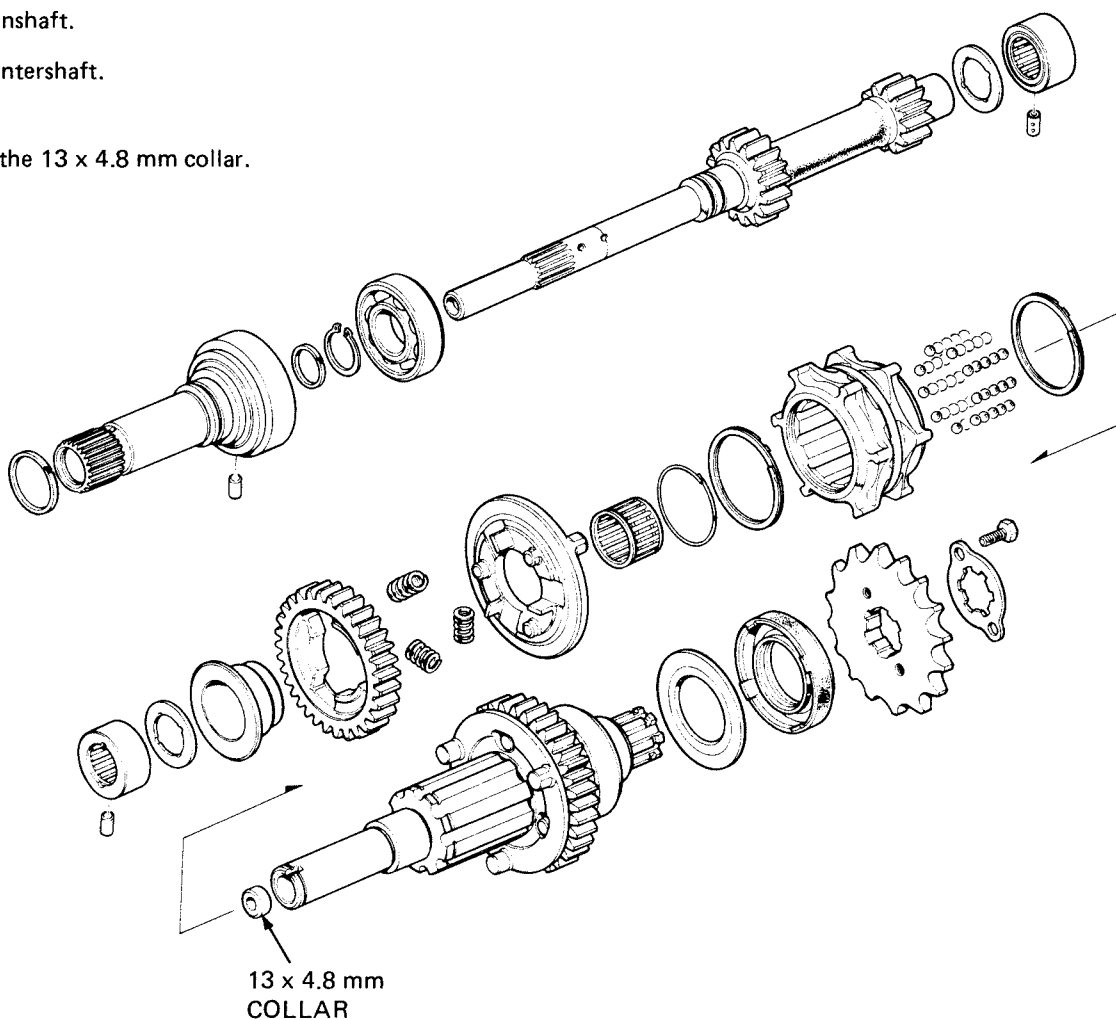


TRANSMISSION ASSEMBLY

Assemble the mainshaft.

Assemble the countershaft.

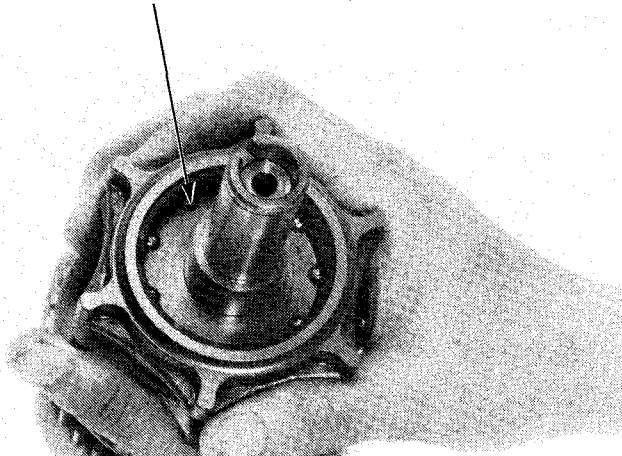
Be sure to install the 13 x 4.8 mm collar.



NOTE

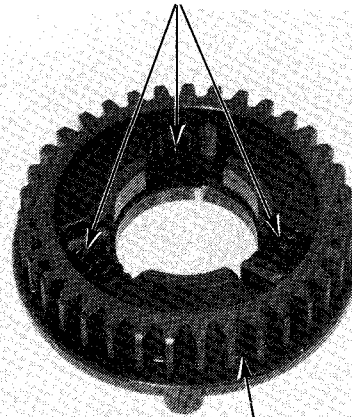
Roll five steel balls into each groove of the gearshifter.

STEEL BALL (five in each groove)



Install the damper springs in the 2nd gear.
 Check that each spring is seated properly.

DAMPER SPRINGS



2ND GEAR

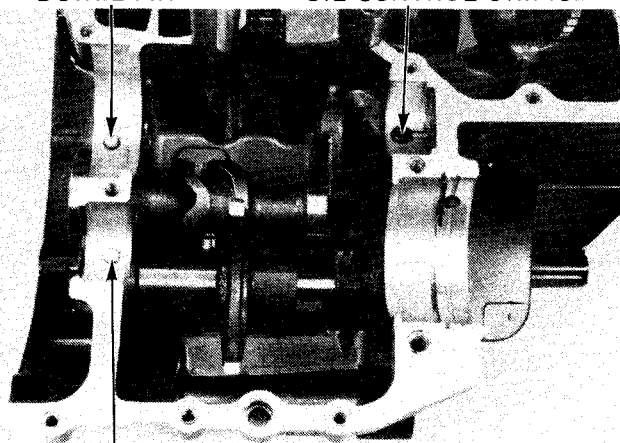
Install the two dowel pins and the oil control orifice in the crankcase.

NOTE

Make sure that the orifice is not clogged before installation.

DOWEL PIN

OIL CONTROL ORIFICE

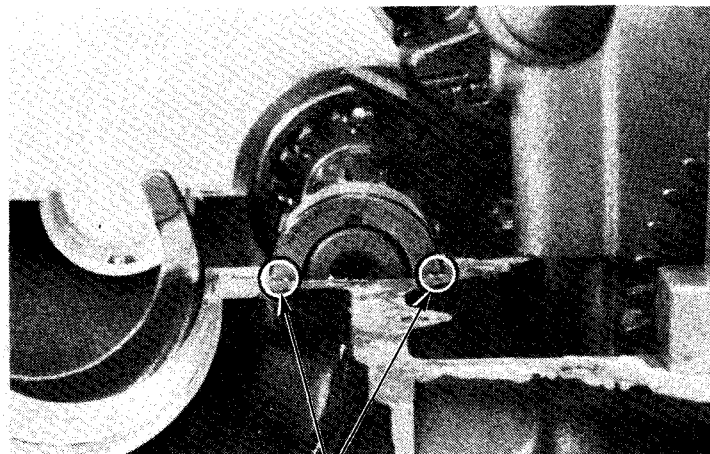


DOWEL PIN



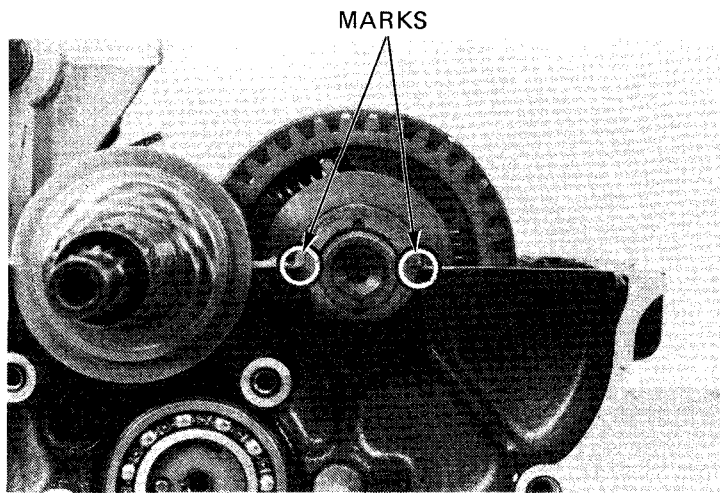
Lay the mainshaft on the bearing saddles with the hole in the needle bearing pointing down. Align the marks with the end of the crankcase.

Install the stator shaft, making sure that the dowel pin fits in its hole in the shaft.



MARKS

Install the countershaft with its marks aligned with the end of the crankcase. Make sure that the countershaft needle roller bearing hole is pointing down.



MARKS

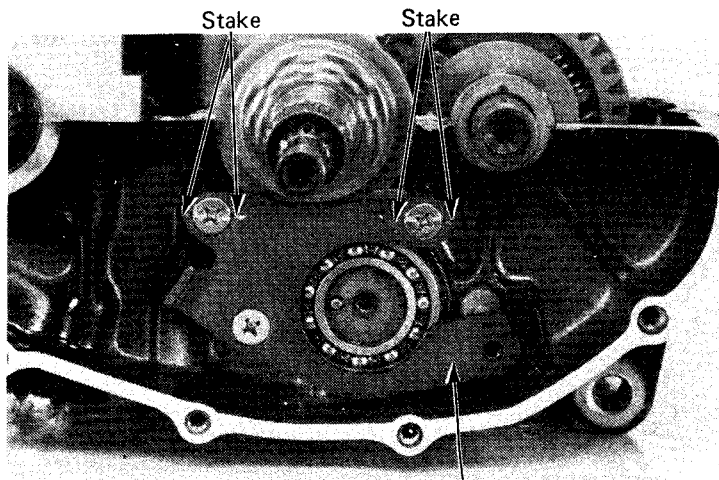
Install the drum stopper plate.

Stake the two screw heads against the stopper plate grooves.

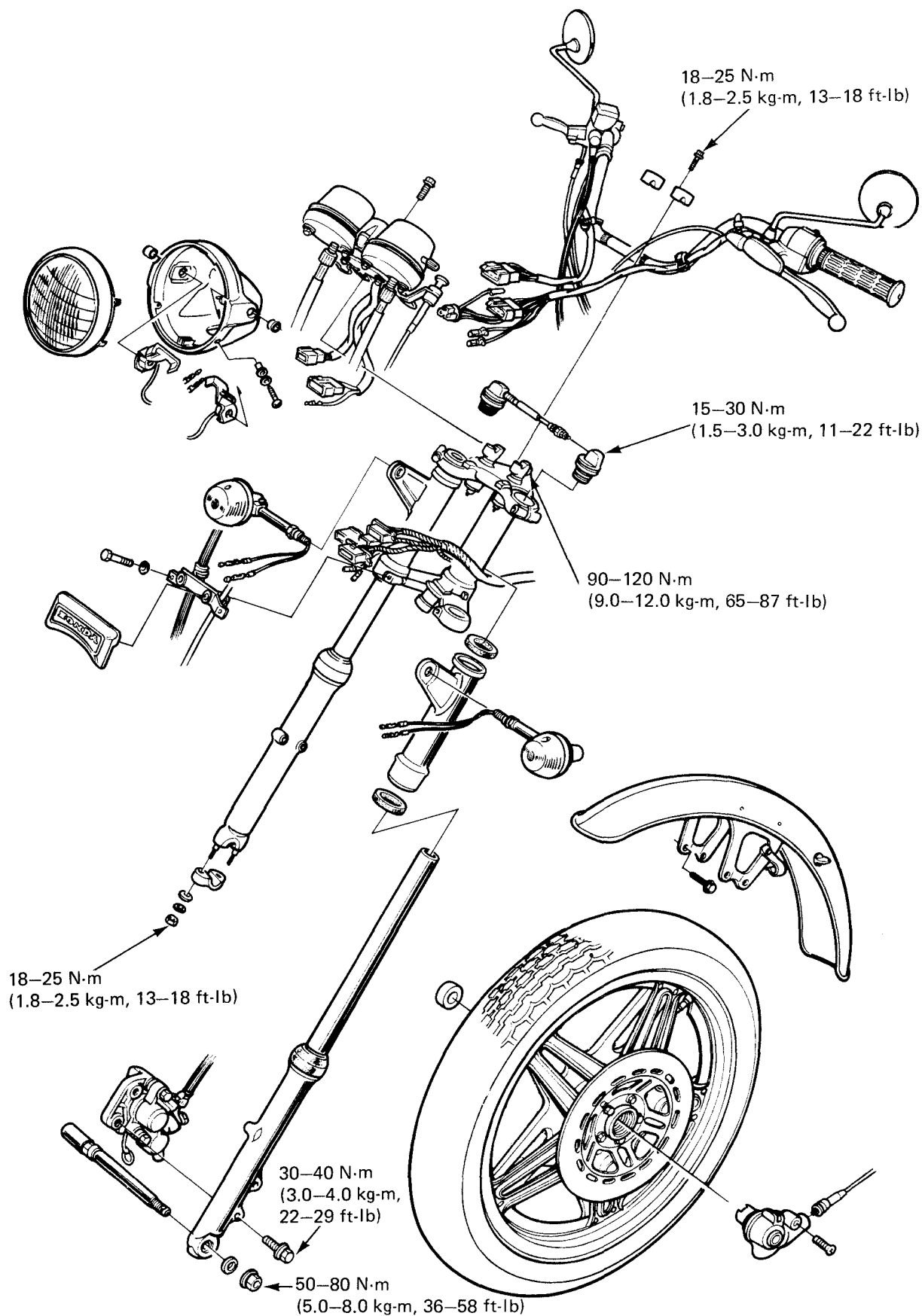
NOTE

Check that the mainshaft and countershaft rotate freely.

Install the lower crankcase (Section 12).



DRUM STOPPER PLATE





SERVICE INFORMATION	15-1
TROUBLESHOOTING	15-3
HEADLIGHT	15-4
INSTRUMENTS	15-6
HANDLEBAR	15-10
FRONT WHEEL	15-13
FRONT FORK	15-19
STEERING STEM	15-33

SERVICE INFORMATION

GENERAL INSTRUCTIONS

- A jack or other support is required to support the motorcycle.
- Never ride on the rim or try to bend the wheel.

SPECIFICATIONS

CB450T, CM450C/A

			STANDARD	SERVICE LIMIT
Axle shaft runout			_____	0.2 mm (0.01 in)
Front wheel runout		Radial	_____	2.0 mm (0.08 in)
		Axial	_____	2.0 mm (0.08 in)
Fork spring free length	Spring A	CM450C, A	237.4 mm (9.35 in)	232 mm (9.13 in)
		CB450T	240.4 mm (9.47 in)	235 mm (9.25 in)
	Spring B	CM450C, A	362.4 mm (14.27 in)	355 mm (14.0 in)
		CB450T	341.9 mm (13.46 in)	335 mm (13.2 in)
Fork tube runout			_____	0.2 mm (0.01 in)
Fork slider bushing O.D.			33.95–33.98 mm (1.337–1.338 in)	33.86 mm (1.333 in)
Fork tube O.D.			32.950–32.975 mm (1.297–1.298 in)	32.90 mm (1.295 in)
For fluid capacity		CM450C, A	220 cc (7.45 oz)	_____
		CB450T	187 cc (6.3 oz)	_____
Fork air pressure			80 ± 20 kPa (0.8 ± 0.2 kg/cm ² , 11 ± 3 psi)	_____
Fork guide bushing I.D.			32.98–33.11 mm (1.298–1.304 in)	33.23 mm (1.308 in)



CM450E

		STANDARD	SERVICE LIMIT
Axle shaft runout		_____	0.2 mm (0.008 in)
Front wheel runout	Radial	_____	2.0 mm (0.08 in)
	Axial	_____	2.0 mm (0.08 in)
Front brake shoe thickness		4.9— 5.0 mm (0.19—0.20 in)	2.0 mm (0.08 in)
Front brake drum I.D.		180.0—180.3 mm (7.09—7.10 in)	181.0 mm (7.13 in)
Front spring free length		490.9 mm (19.33 in)	480.0 mm (18.90 in)
Front fork tube runout		_____	0.2 mm (0.008 in)
Fork fluid capacity		135 cc (4.6 oz)	_____

TOOLS

SPECIAL

Hollow set wrench 6 mm

Ball race driver

Ball race remover

07917—3230000 or commercially available

07945—3330300

07953—3330000

COMMON

Pin spanner

Lock nut wrench socket, 30 x 32 mm

Extension bar

Bearing driver handle A

Bearing driver outer, 42 x 47 mm

Bearing driver pilot, 15 mm

Front fork oil seal driver body

Front fork oil seal attachment D

07702—0010000

07716—0020400

07716—0020500 } or commercially available

07749—0010000 or 07949—6110000

07746—0010300

07746—0040300 } or 07946—9350200

07747—0010100

07747—0010500 } or 07947—3290000

TORQUE VALUES

Air hose left
right

Air hose connector

Air valve

Axle holder

Fork cap bolt

Fork socket bolt

Fork top bridge pinch bolt

Front axle nut

Front brake caliper

Front caliper bracket

Front brake disc

Handlebar upper holder

Steering stem nut

Steering stem pinch bolt

Front brake torque link

Fork cap bolt

15—20 N·m (1.5— 2.0 kg-m, 11—14 ft-lb)

4—7 N·m (0.4— 0.7 kg-m, 3— 5 ft-lb)

4—7 N·m (0.4— 0.7 kg-m, 3— 5 ft-lb)

4—7 N·m (0.4— 0.7 kg-m, 3— 5 ft-lb)

18—25 N·m (1.8— 2.5 kg-m, 13—18 ft-lb)

15—30 N·m (1.5— 3.0 kg-m, 11—22 ft-lb)

15—25 N·m (1.5— 2.5 kg-m, 11—18 ft-lb)

9—13 N·m (0.9— 1.3 kg-m, 7— 9 ft-lb)

50—80 N·m (5.0— 8.0 kg-m, 36—58 ft-lb)

20—25 N·m (2.0— 2.5 kg-m, 14—18 ft-lb)

30—40 N·m (3.0— 4.0 kg-m, 22—29 ft-lb)

27—33 N·m (2.7— 3.3 kg-m, 20—24 ft-lb)

18—25 N·m (1.8— 2.5 kg-m, 13—18 ft-lb)

90—120 N·m (9.0—12.0 kg-m, 65—87 ft-lb)

18—25 N·m (1.8— 2.5 kg-m, 13—18 ft-lb)

18—25 N·m (1.8— 2.5 kg-m, 13—18 ft-lb)

70—90 N·m (7.0— 9.0 kg-m, 51—65 ft-lb)

TROUBLESHOOTING

Hard steering

1. Steering stem nut too tight
2. Faulty steering stem bearings
3. Damaged steering stem bearings
4. Insufficient tire pressure

Steers to one side or does not track straight

1. Unevenly adjusted right and left shock absorbers
2. Bent front forks
3. Bent front axle; wheel installed incorrectly

Front wheel wobbling

1. Distorted rim
2. Worn front wheel bearing
3. Faulty tire
4. Axle not tightened properly
5. Bent or loose spokes (CM450E)

Soft suspension

1. Weak fork spring
2. Insufficient fluid in front forks
3. Front fork air pressure incorrect (CM450C, A and CB450T)

Head suspension

1. Incorrect fluid weight in front forks
2. Fork air pressure incorrect (CM450C, A and CB450T)

Front suspension noise

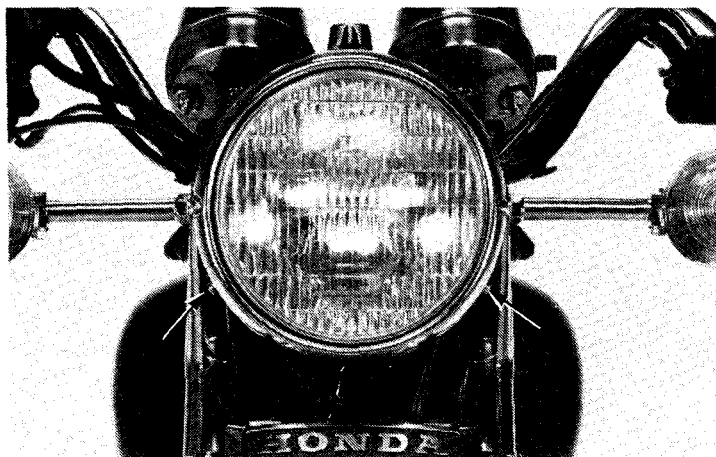
1. Worn slider or guide bushings
2. Insufficient fluid in forks
3. Loose front fork fasteners
4. Lack of grease in speedometer gear box (CM450C, A and CB450 T)



HEADLIGHT

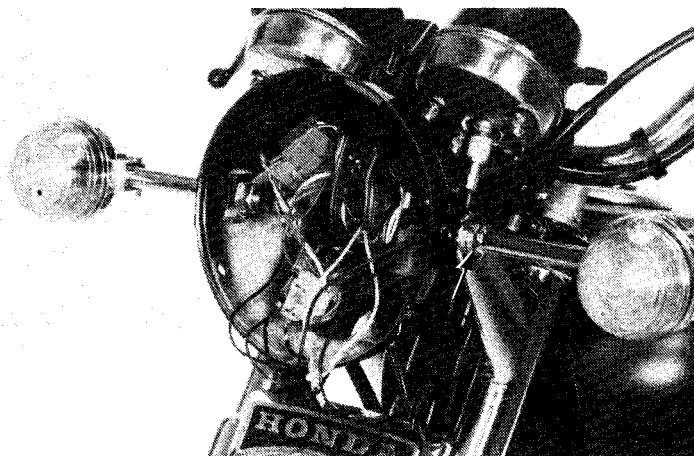
HEADLIGHT CASE REMOVAL

Remove the headlight.



Disconnect all wires at their couplers and connectors.

Remove the left and right turn signal mounts (or headlight case mounting bolts) and remove the headlight case.



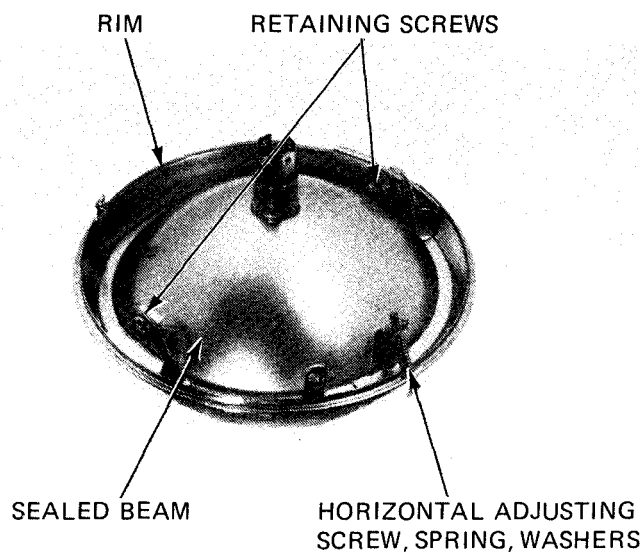
HEADLIGHT DISASSEMBLY/ASSEMBLY

Remove the horizontal adjusting screw, spring and washers.

Remove the two retaining screws and sealed beam unit.

Assemble in reverse order of removal.

After assembly, adjust the headlight aim (page 3-23).



HEADLIGHT CASE INSTALLATION

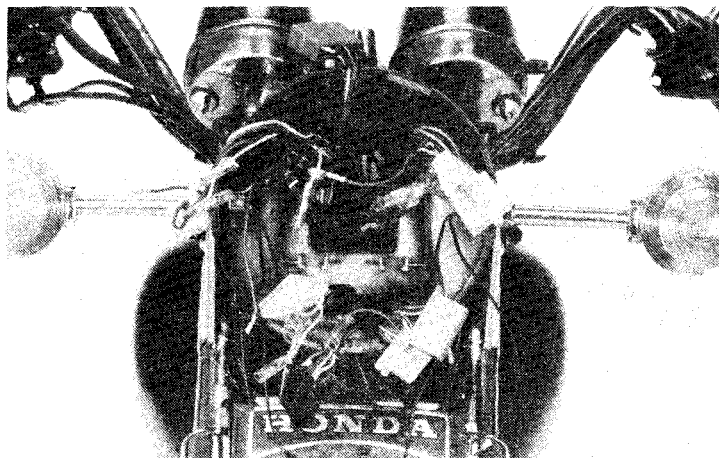
Route the wires into the headlight case through the headlight case hole.

LOWER HOLE: Main wire harness

UPPER HOLE : Instrument wires

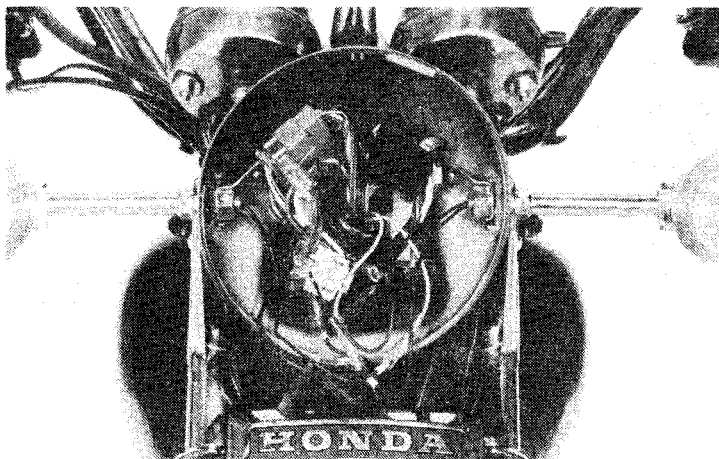
Right handlebar switch wires

Left handlebar switch wires



Connect the wire connectors and couplers.

Install the coupler into the holder in the headlight case.

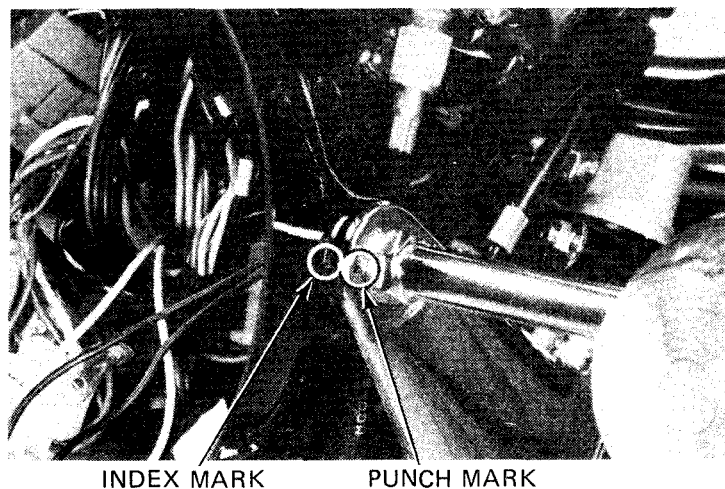


Align the index marks on the headlight case with the punch marks on the brackets.

NOTE

Check each component for operation after assembling.

Install the headlight and reflectors.





INSTRUMENTS

CM450C/E/A

INDICATOR LIGHT BULB REPLACEMENT

Remove the indicator light panel screws and panel.

Turn the bulb counterclockwise while pushing in and pull it out.

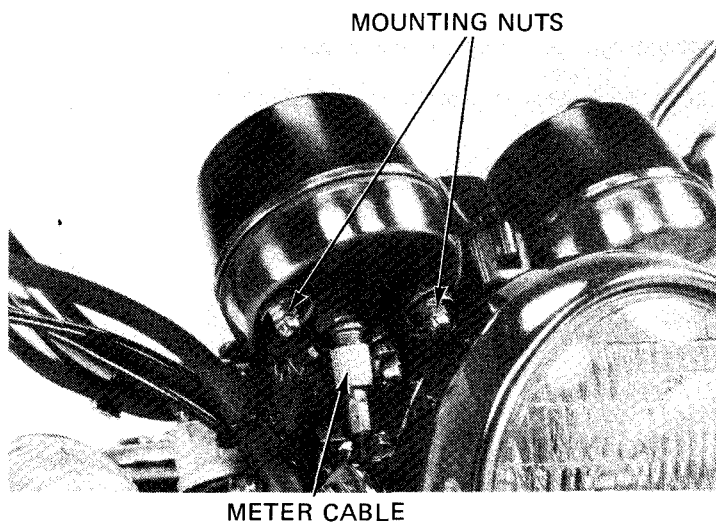
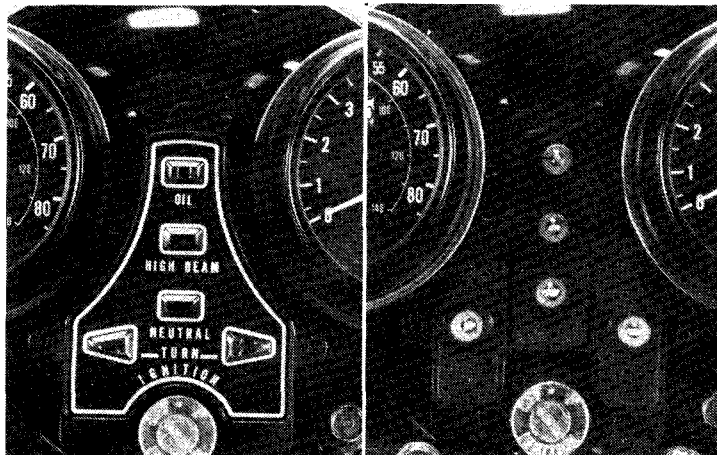
Replace the bulb.

If a replacement bulb does not light, check the wiring for short or open circuit, or loose connections.

The CM450E's indicator lights are in the right meter case.

SPEEDOMETER/TACHOMETER LIGHT REPLACEMENT

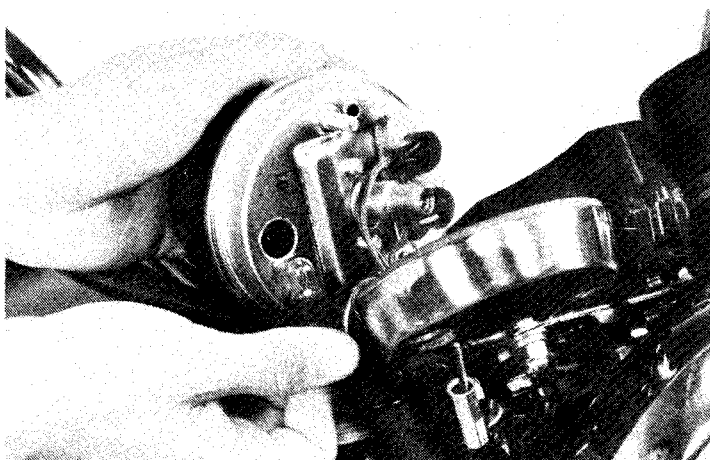
Disconnect the speedometer cable or tachometer cable (CM450C only) and remove the speedometer/tachometer mounting nuts.



Pull the bulb socket out of the case and remove the bulb.

Install a new bulb and check for continuity. If the bulb does not light, inspect the wiring for open or short circuits.

Lubricate the speedometer/tachometer cable before reconnecting.



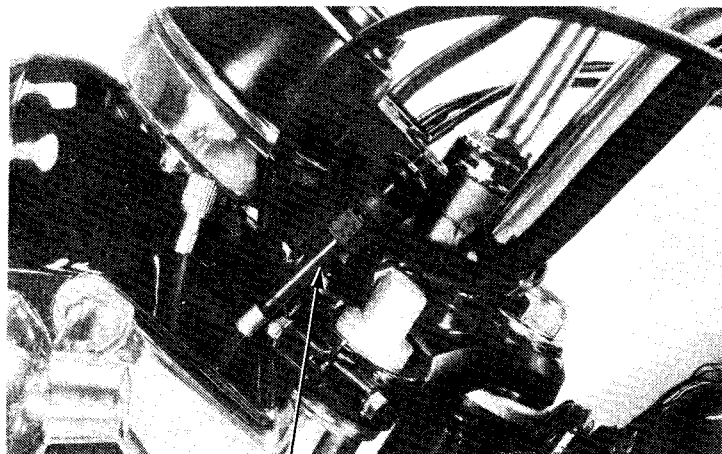


DISASSEMBLY

Remove the headlight and disconnect the instrument wire couplers and connectors.

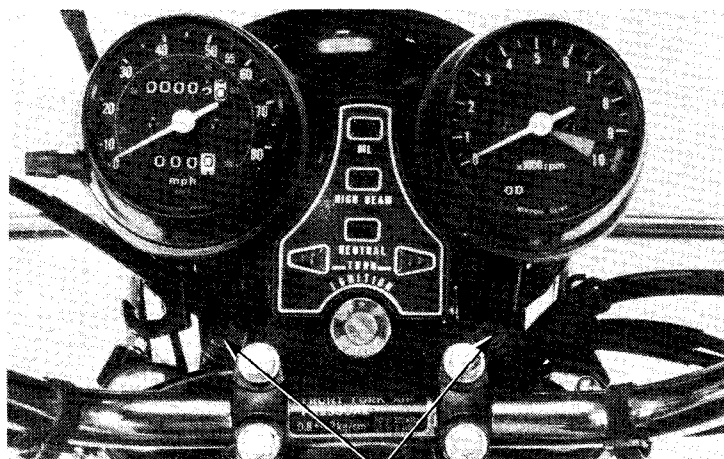
Remove the choke cable from its bracket.

Disconnect the speedometer cable and tachometer cable (CM450C only).



CHOKE CABLE

Remove the instrument mounting bolts and the instruments.



MOUNTING BOLTS

Separate the parts necessary.

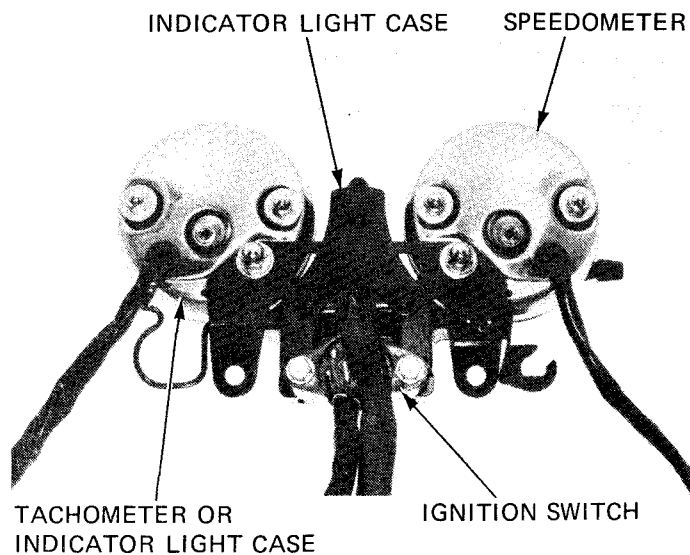
CAUTION:

Do not leave the instrument upside down for a long time or damping fluid will leak onto the inside of the lens.

ASSEMBLY

Assemble and install the instruments in the reverse order of removal.

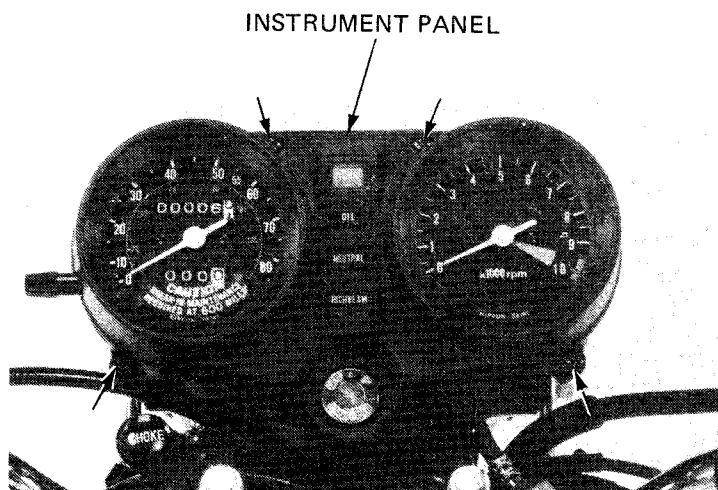
Lubricate the speedometer cable and tachometer cable (CM450C only) before reconnecting.



CB450T

INDICATOR LIGHT REPLACEMENT

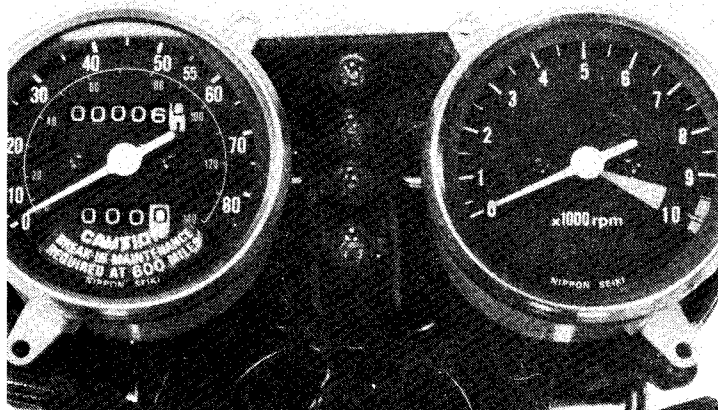
Remove the instrument panel.



Turn the bulb counterclockwise while pushing in and pull it out.

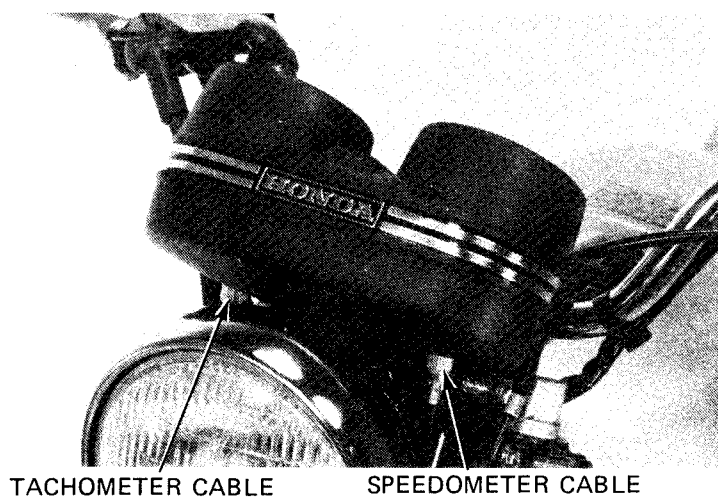
Replace the bulb.

If a replacement bulb does not light, check the wiring for open or short circuit, or loose connections.



METER LIGHT REPLACEMENT

Disconnect the speedometer and tachometer cables.



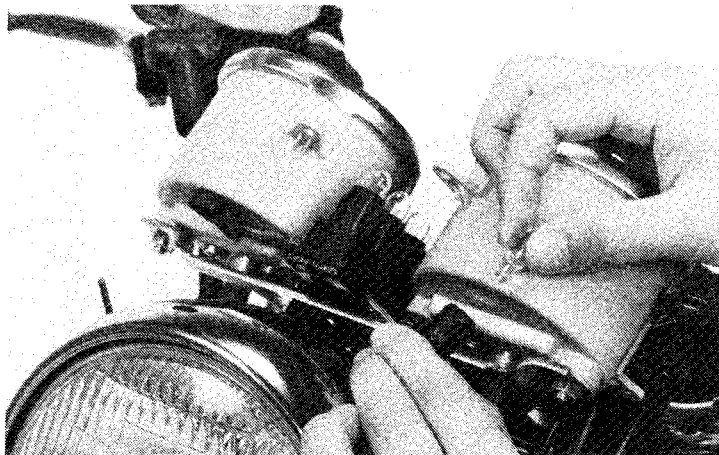
Remove the instrument panel and bracket.

Pull the bulb socket out of the meter case and pull the bulb out of the socket.

Replace the bulb.

If a replacement bulb does not light, check the wiring for open or short circuits, or loose connections.

Lubricate the speedometer and tachometer cables before reconnecting them.



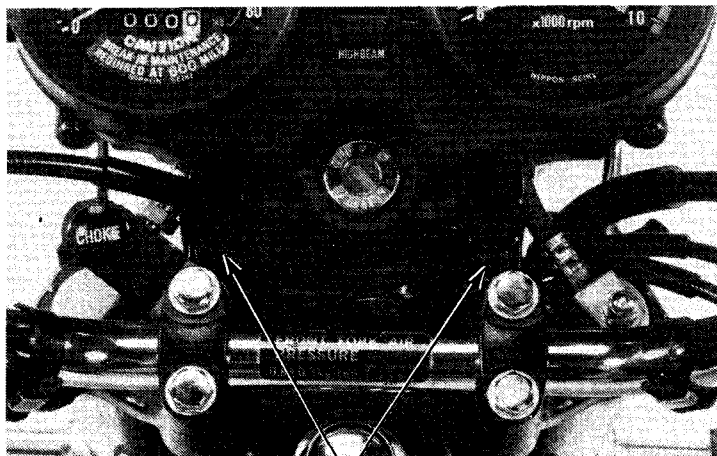
DISASSEMBLY

Remove the headlight and disconnect the instrument wire coupler and connectors.

Remove the instrument panel and under cover.

Remove the instrument mounting bolts.

Remove the instrument.



MOUNTING BOLTS

Separate the parts necessary

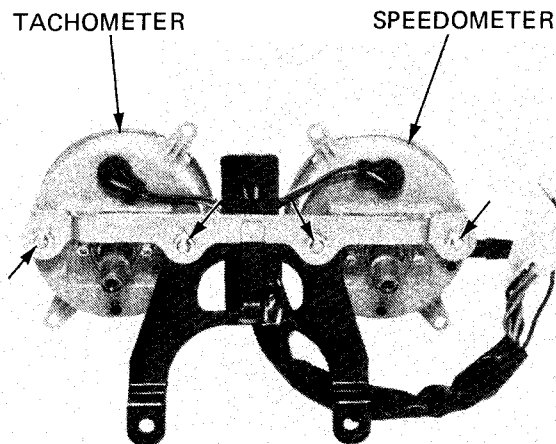
CAUTION:

Do not leave the instrument upside down for long time or damping fluid will leak onto the inside of the lens.

ASSEMBLY

Assemble and install the instruments in the reverse order of disassembly.

Lubricate the speedometer and tachometer cables before reconnecting them.





FRONT WHEEL/BRAKE/SUSPENSION

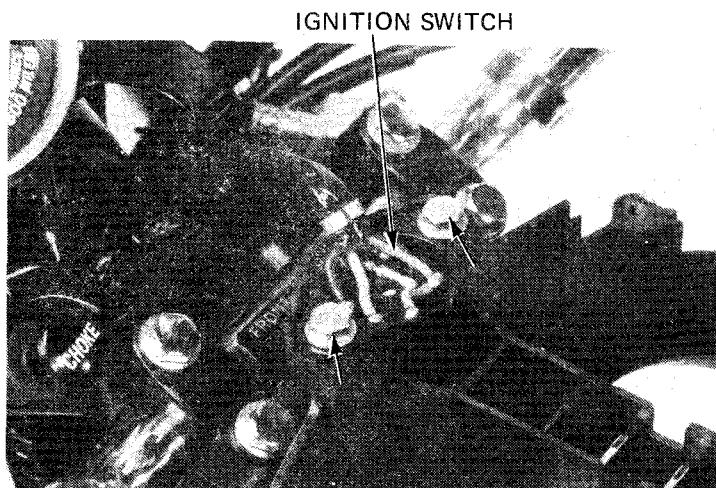
IGNITION SWITCH REPLACEMENT

Remove the headlight and disconnect the ignition switch wire coupler.

Remove the instrument panel.

Remove the ignition switch from the panel.

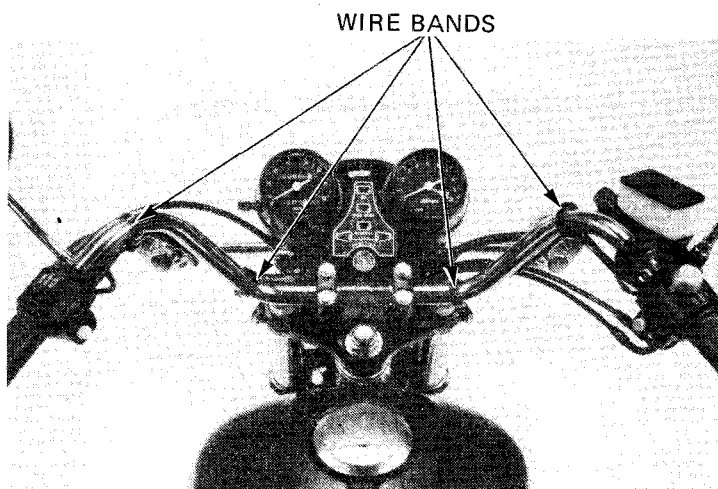
Replace the ignition switch.



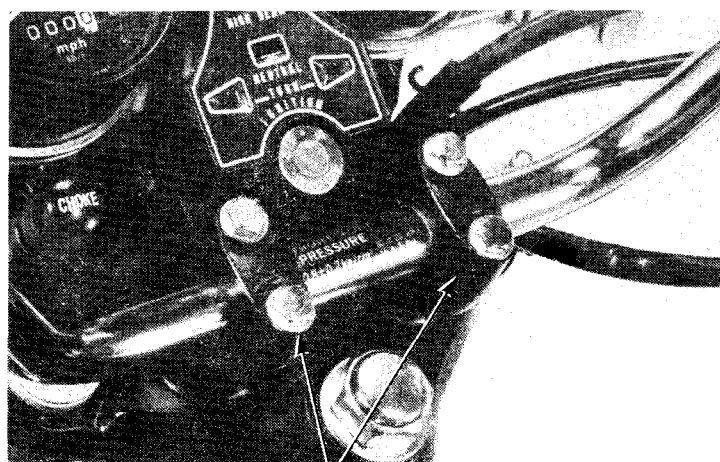
HANDLEBAR

REMOVAL

Remove the wire bands.

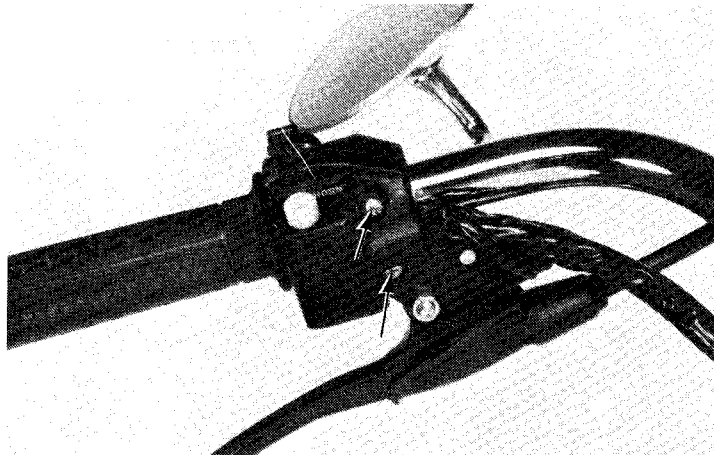


Remove the handlebar upper holders.





Remove the left handlebar switch housing.

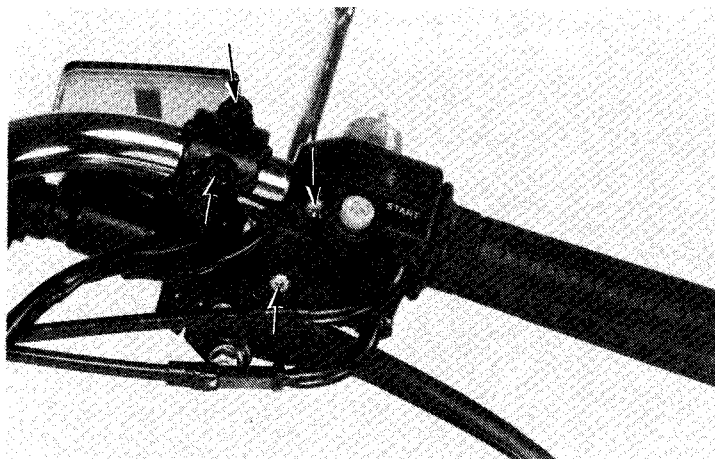


Remove the right handlebar switch housing.

Remove the master cylinder from the handlebar and support it so it does not hang by the brake hose.

NOTE

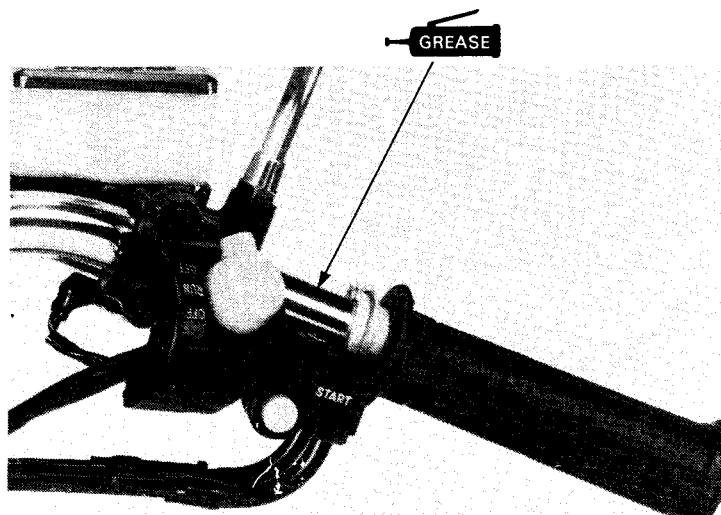
Keep the master cylinder level to prevent air from entering the brake hose.



INSTALLATION

Place the master cylinder on the handlebar.

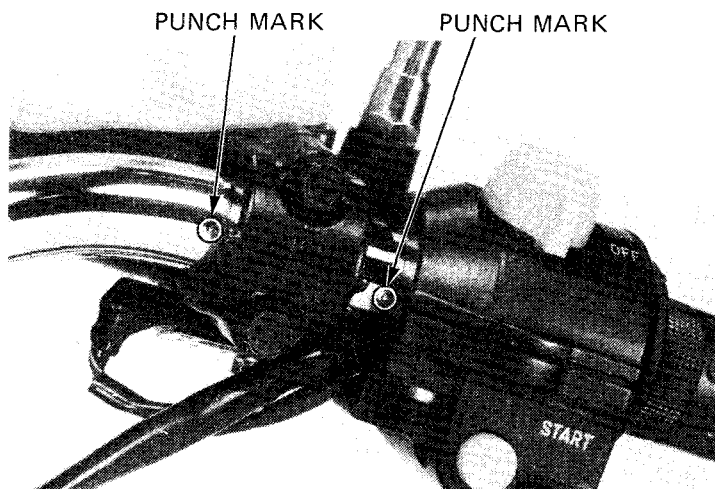
Apply grease to the throttle grip sliding surface and place the right handlebar switch housing and grip.





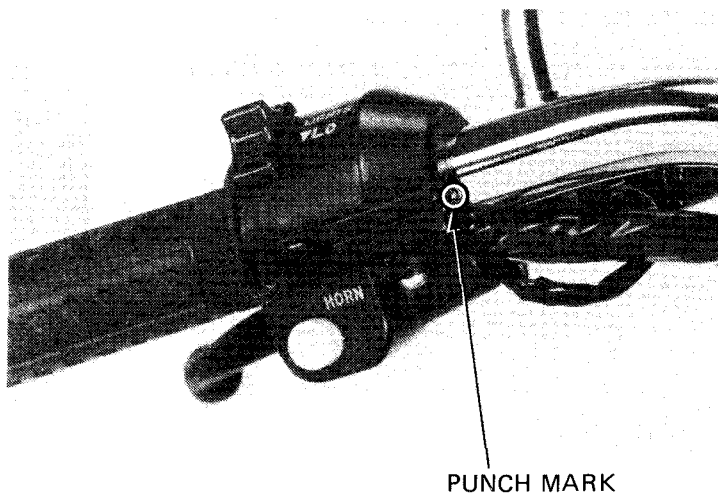
Align the punch mark on the handlebar with the projection of the master cylinder holder and tighten the upper bolt first, then tighten the rear screw.

Align the punch mark on the handlebar with the split in the switch housing and tighten the front screw first, then tighten the lower bolt.



Install the left handlebar switch housing.

Align the punch mark on the handlebar with the split in the switch housing and tighten the front screw first, then tighten the rear screw.

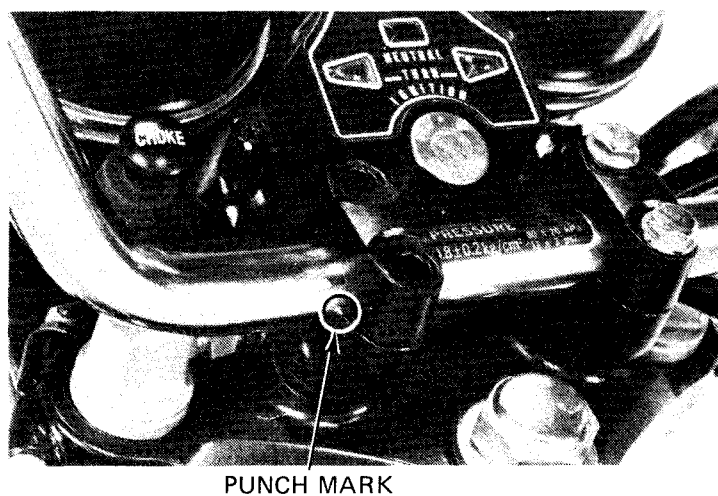


Place the handlebar onto the lower holder by aligning the punch mark with the upper face of the lower holder.

Install the handlebar upper holders and tighten the forward bolts first, then tighten the rear bolts.

TORQUE: 18–25 N·m (1.8–2.5 kg·m, 13–18 ft·lb)

Install the wire bands.





FRONT WHEEL

REMOVAL

Raise the front wheel off the ground by placing a block or safety stand under the engine.

Disconnect the speedometer cable from the speedometer gearbox.

CB450T, CM450C/A: Remove the caliper mounting bolt, pivot the caliper up out of the way and remove it.

CM450E: Disconnect the front brake cable and remove the torque link.

CB450T: Remove the cotter pin from the axle nut.

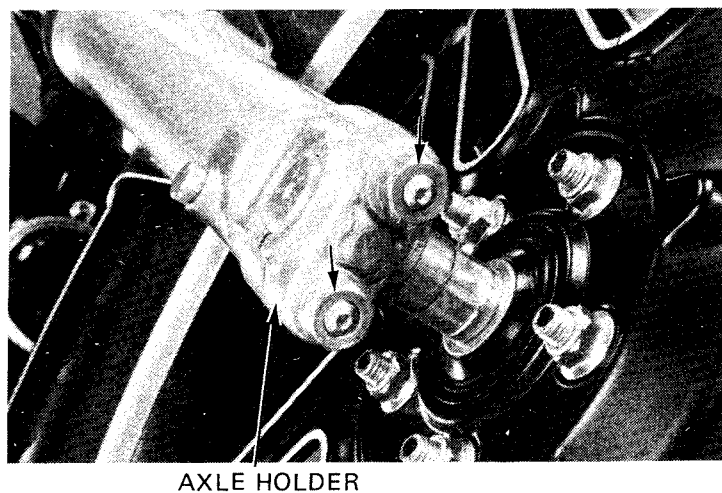
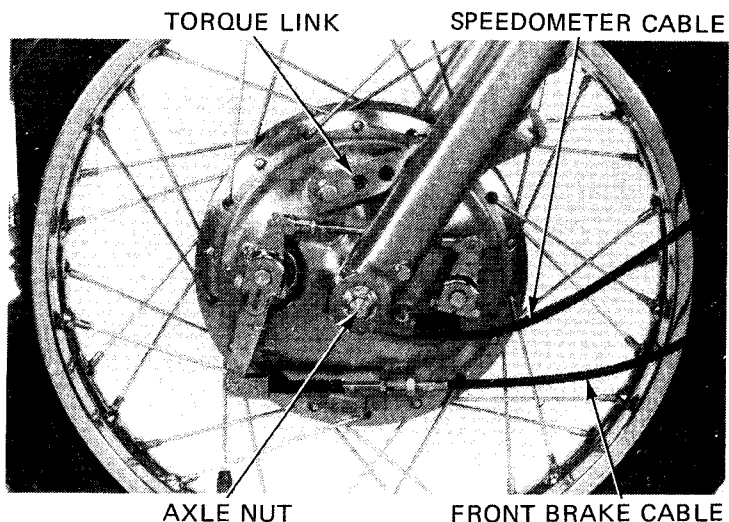
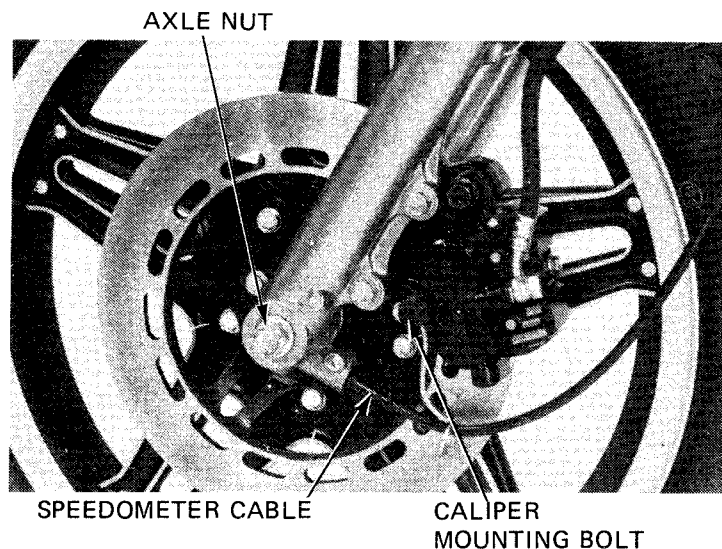
Loosen the axle nut.

Remove the axle holder from the fork end.

Withdraw the axle and remove the wheel.

NOTE

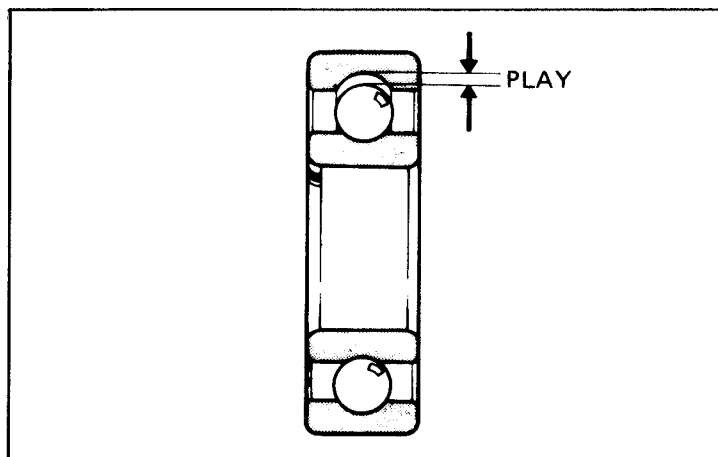
CB450T, CM450C/A: Do not operate the front brake lever after removing the front wheel. To do so will make it difficult to fit the brake disc between the brake pads.



**FRONT WHEEL/BRAKE/SUSPENSION****WHEEL BEARING INSPECTION**

Check wheel bearing play by placing the wheel in a truing stand and spinning the wheel by hand. Replace the bearings with new ones if they are noisy or have excessive play.

SERVICE LIMIT: 0.027 mm (0.001 in)

**WHEEL INSPECTION**

Check the rim runout by placing the wheel in a truing stand. Spin the wheel slowly and read the runout using a dial indicator.

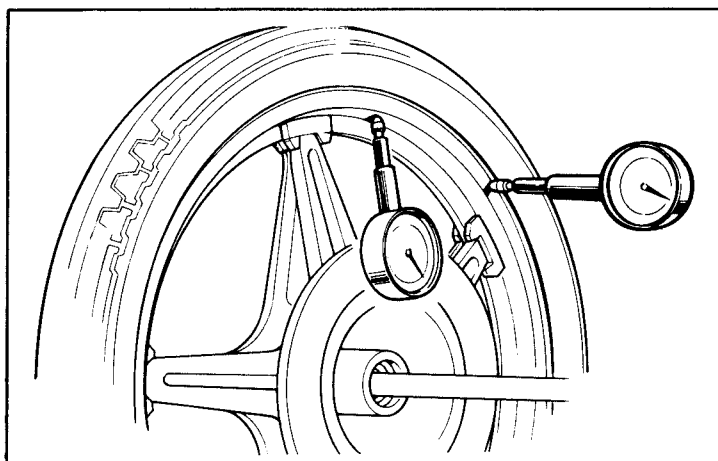
SERVICE LIMITS:

RADIAL RUNOUT: 2.0 mm (0.08 in)

AXIAL RUNOUT : 2.0 mm (0.08 in)

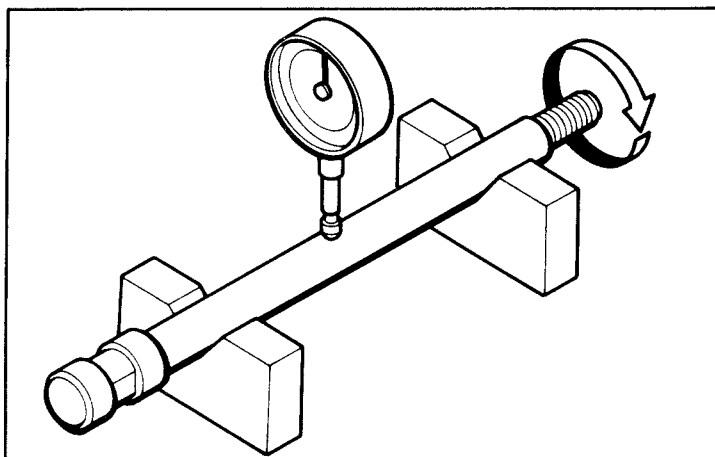
NOTE

The COMSTAR WHEEL cannot be repaired and must be replaced with a new one if the service limits are exceeded.

**AXLE INSPECTION**

Set the axle in V blocks and measure the runout. The actual runout is 1/2 of the total indicator reading.

SERVICE LIMIT: 0.2 mm (0.01 in)



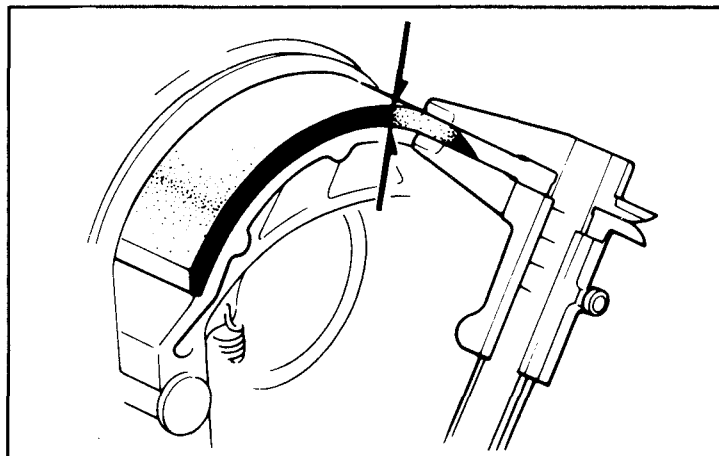


CM450E: FRONT BRAKE

BRAKE LINING THICKNESS

Measure the brake lining thickness.

SERVICE LIMIT: 2.0 mm (0.08 in)



BRAKE SHOE REPLACEMENT

NOTE

Do not loosen the brake rod unless necessary.

Pry off the cotter pin and remove the washer.

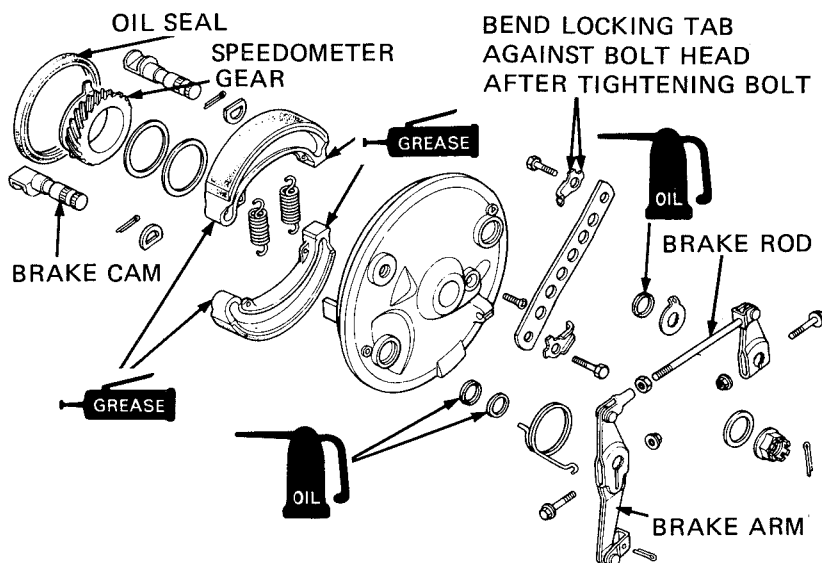
Replace the shoes with new ones.

Apply grease to the cam contacting faces of the shoes.

WARNING

Contaminated brake linings reduce stopping power.

Keep grease off the brake linings. Wipe excess grease off the cam.



BRAKE ROD ADJUSTMENT

Adjust the brake rod length at its threaded ends so that both shoes start to hold at the same time, while observing the cam and shoe movement.

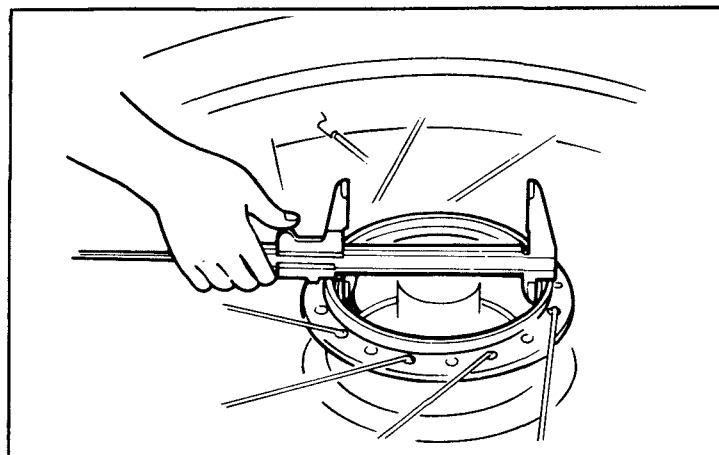
NOTE

Make sure that the punch mark on the brake arm aligns with the punch mark on the brake cam.

BRAKE DRUM INSPECTION

Measure the brake drum I.D.

**SERVICE LIMIT: 181.0 mm
(7.13 in)**

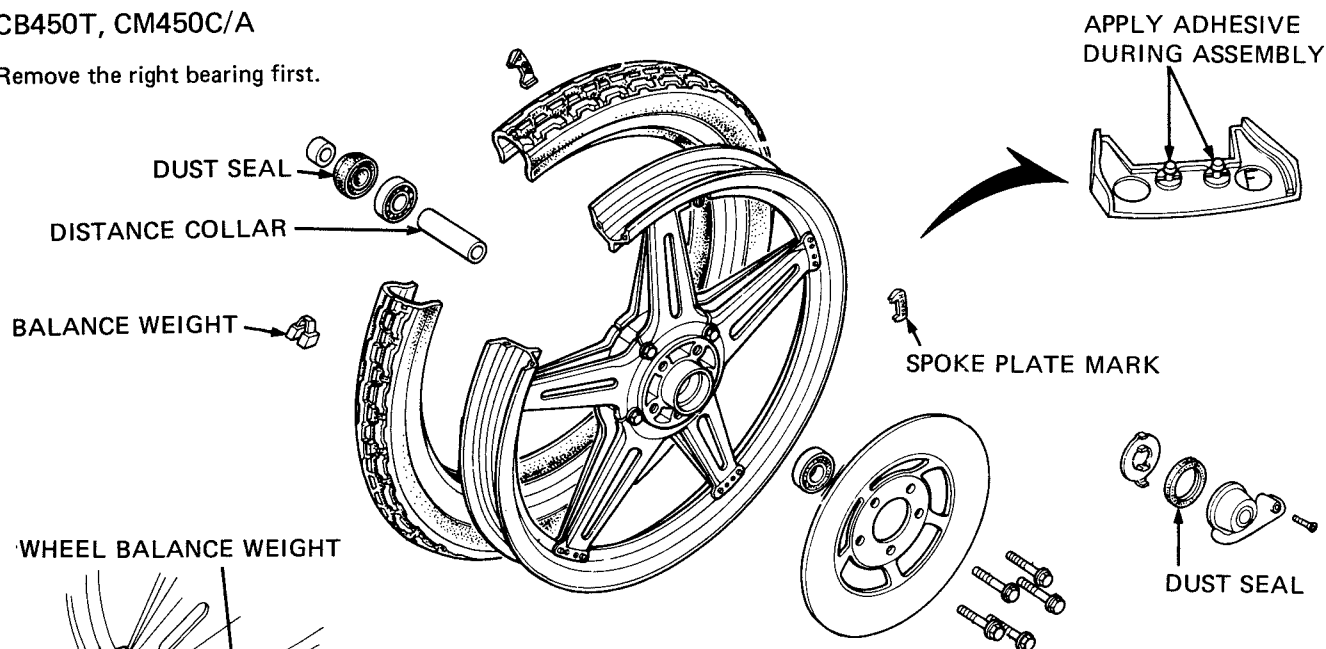




DISASSEMBLY

CB450T, CM450C/A

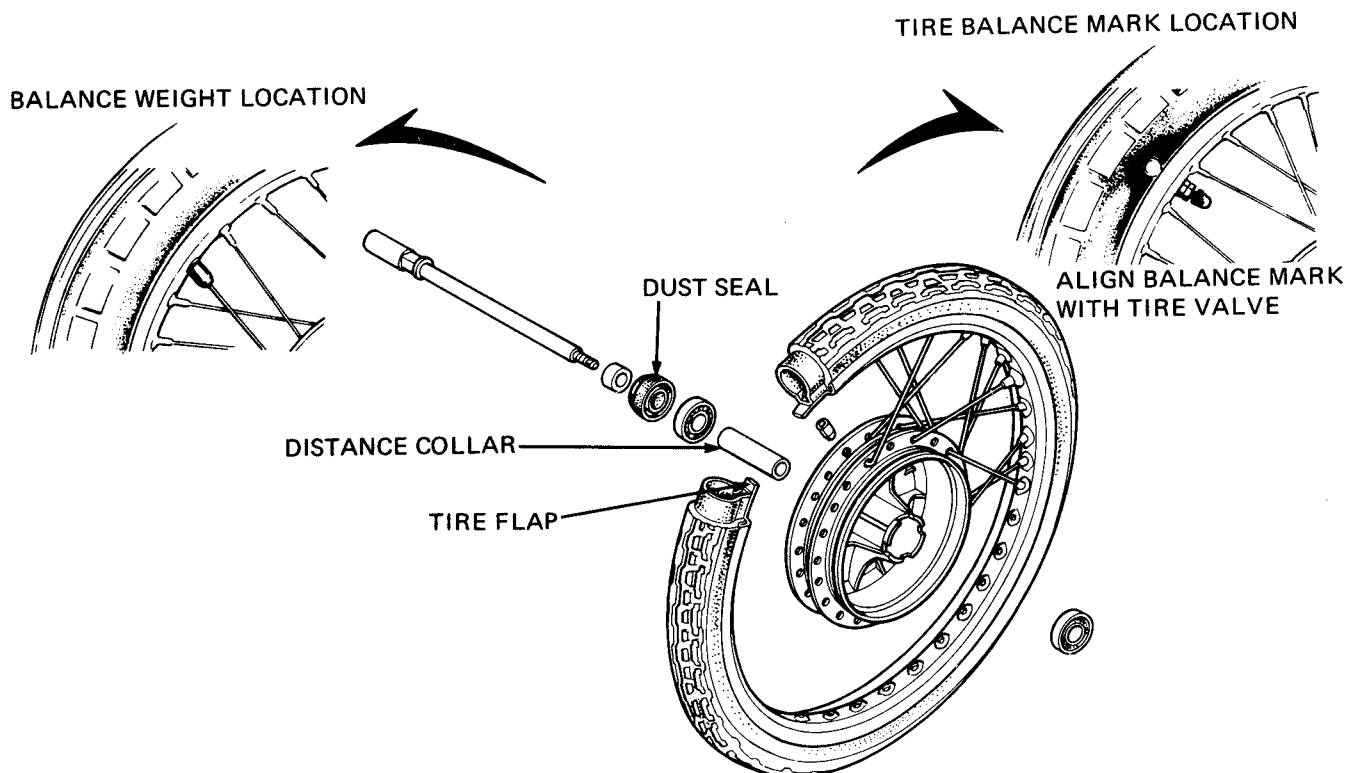
Remove the right bearing first.



NOTE

The COMSTAR wheel has no rim band.

CM450E





ASSEMBLY

Pack all bearing cavities with grease.

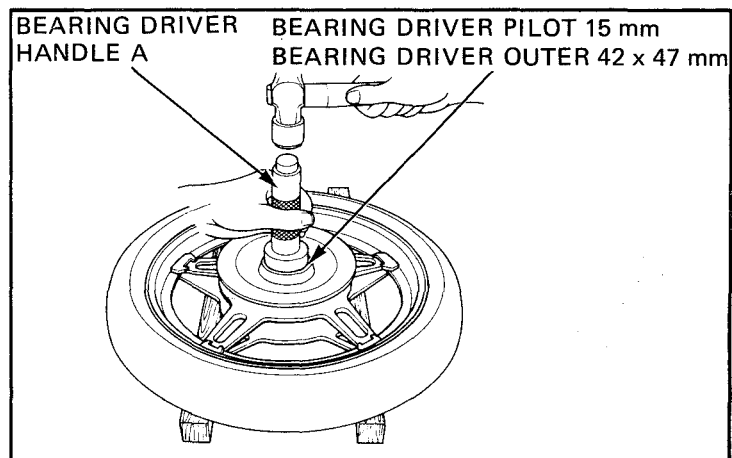
Drive in the right bearing first.

Press the distance collar into place.

Drive in the left bearing.

NOTE

- Drive the bearing squarely.
- Drive the bearing into position, making sure that it is fully seated and that the sealed side is facing out.

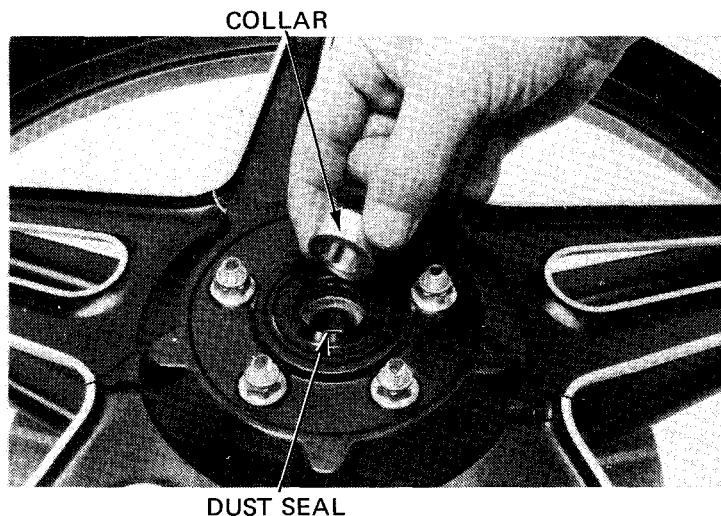


Lubricate the inside of the dust seal with grease.

Install the dust seal and collar in the hub on the right side.

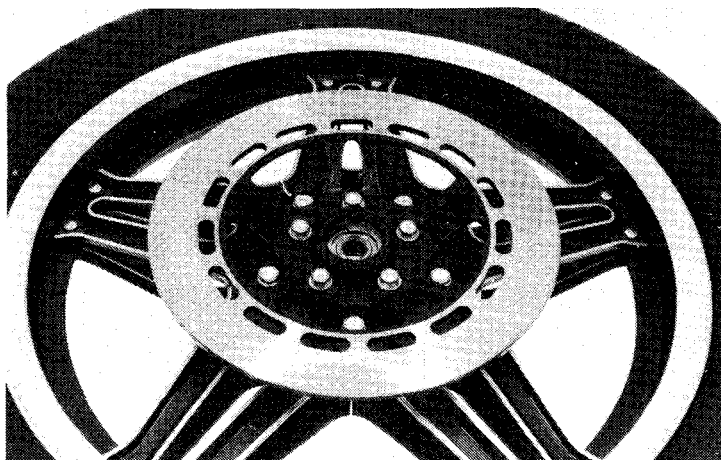
NOTE

The spoke plate bolts and nuts require no re-tightening since they are secured with lock pins. Do not remove these lock pins.



CB450T, CM450C/A: Install the brake disc.

TORQUE: 27–33 N·m (2.7–3.3 kg-m, 20–24 ft-lb)



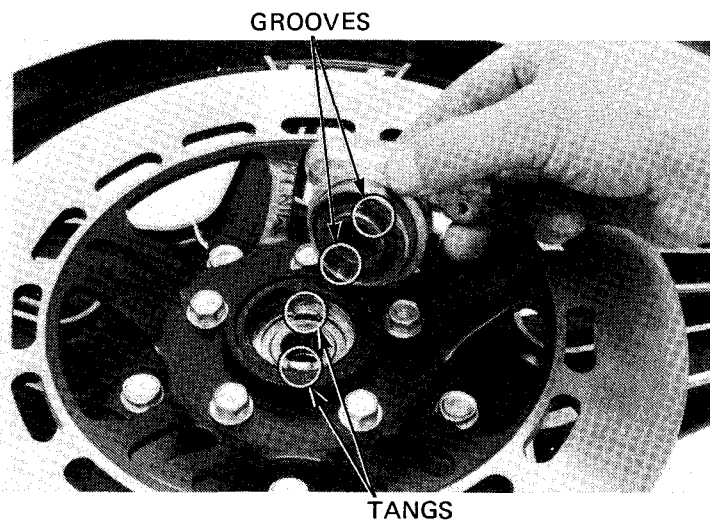


Install the speedometer gear retainer in the hub from the left side.

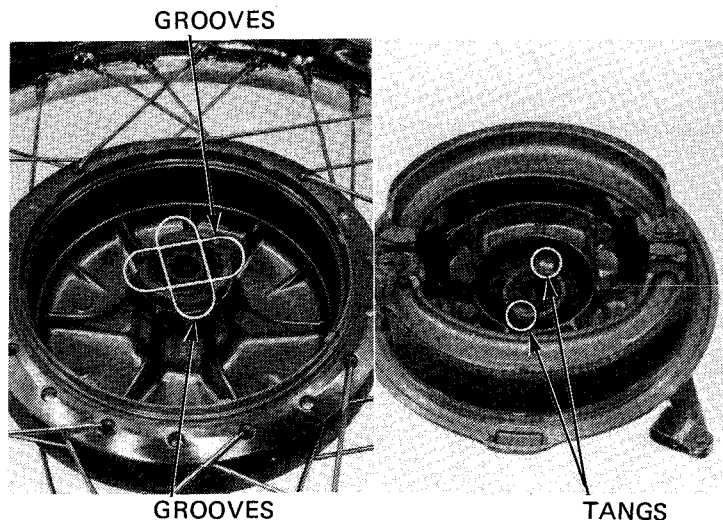
Lubricate the inside of the oil seal and install.

Disassemble the speedometer gear box and lubricate the gears and sliding faces.

Install the speedometer gear in the wheel hub, aligning the grooves in the speedometer gear box with the tangs of the retainer.



CM450E: Install the front brake drum in the wheel hub, aligning the speedometer gear tangs with the two hub groove pairs.



INSTALLATION

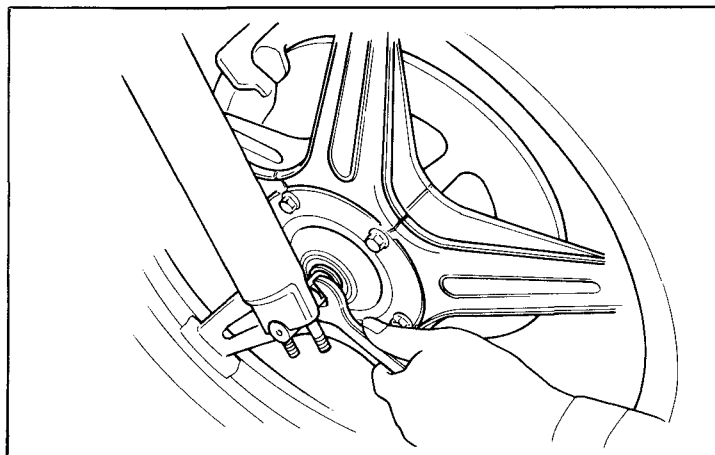
Insert the axle through the wheel hub from the right side.

Torque the axle nut, noting the installation direction of the speedometer gearbox.

TORQUE: 50–80 N·m (5.0–8.0 kg·m, 36–58 ft·lb)

NOTE

Install the speedometer gearbox horizontally, being careful not to bend the speedometer cable.





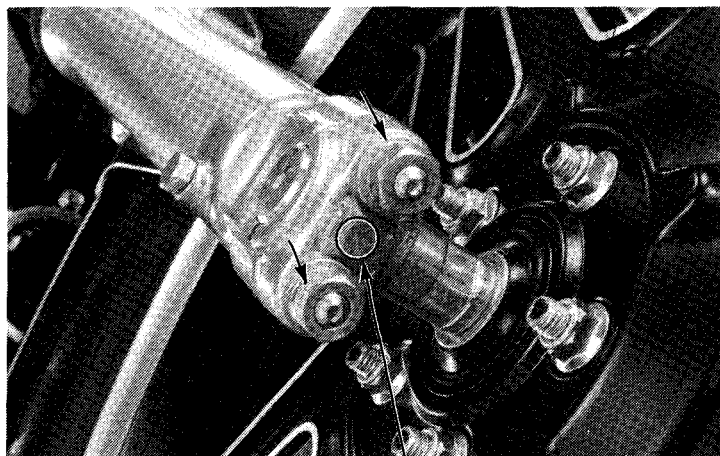
Position the axle holder on the fork end with the arrow mark facing the front.

Tighten the forward nut to the specified torque first, then tighten the rear nut to the same torque.

TORQUE: 18–25 N·m (1.8–2.5 kg·m, 13–18 ft·lb)

NOTE

Place a stand under the engine to remove any load from the front fork. Keep the front wheel forward.



ARROW MARK

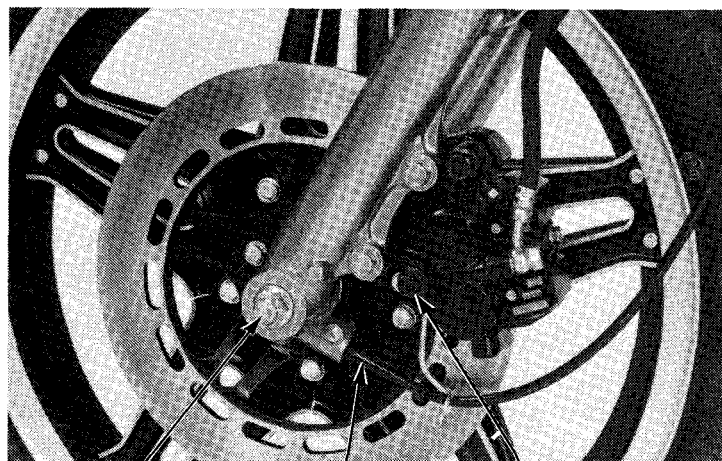
Connect the speedometer cable to the speedometer gearbox while rotating the wheel by hand.

CB450T, CM450C/A: Install the brake caliper so that the disc is positioned between the pads and tighten the mounting bolt.

TORQUE: 20–25 N·m (2.0–2.5 kg·m, 14–18 ft·lb)

CM450E: Connect and tighten the brake torque link, connect the brake cable and adjust the brake (Page 3-20).

TORQUE: 18–25 N·m (1.8–2.5 kg·m 13–18 ft·lb)



AXLE NUT

SPEEDOMETER
CABLE

CALIPER
MOUNTING BOLT

FRONT FORK

REMOVAL

CB450T, CM450C/A: Release air pressure. Then, remove the air hose as follows:

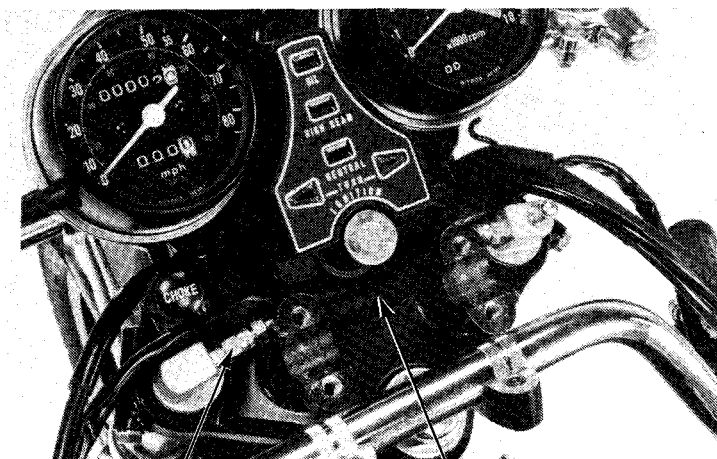
WARNING

The fork tube caps are under air and spring pressure. Front fork air pressure must be relieved and use care when removing the fork tube cap to prevent them from becoming projectiles. Wear eye and face protection.

Remove the handlebar upper holders and remove handlebar from the lower holder.

Disconnect the air hose and remove the connector from the left front fork.

Disconnect the air hose from the right front fork.



CONNECTOR

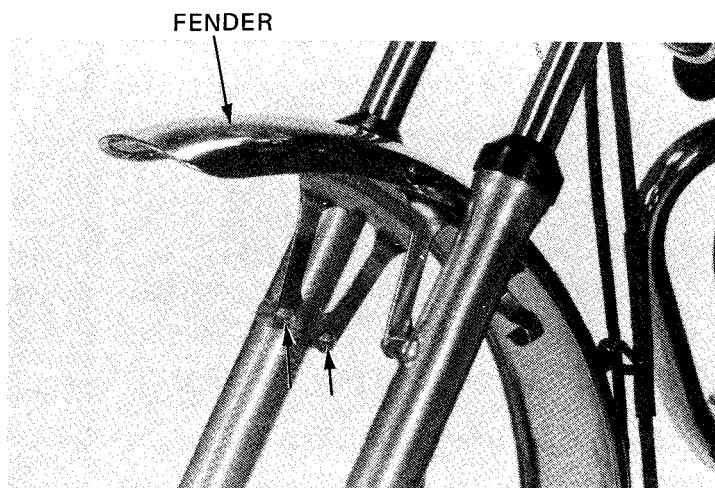
AIR HOSE



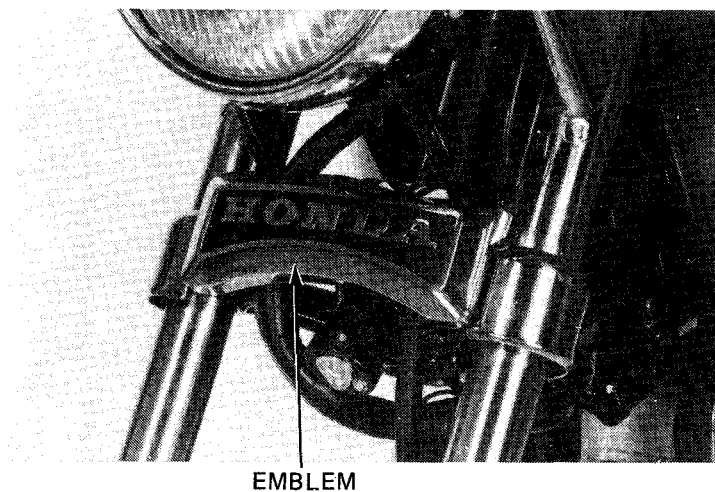
FRONT WHEEL/BRAKE/SUSPENSION

Remove the front wheel.

Remove the front fender.

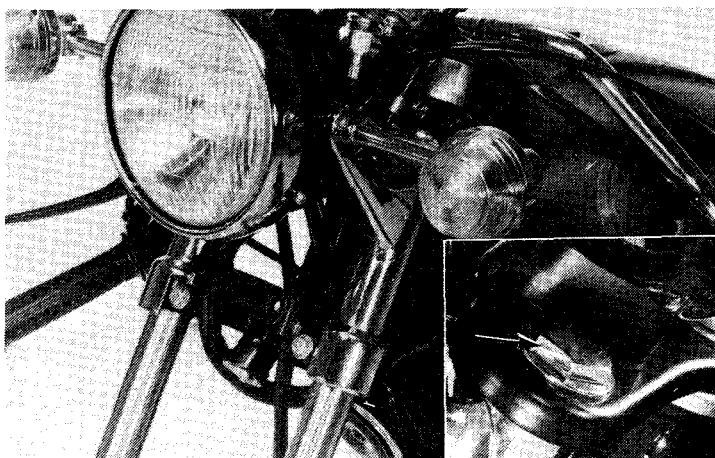


Remove the front emblem.



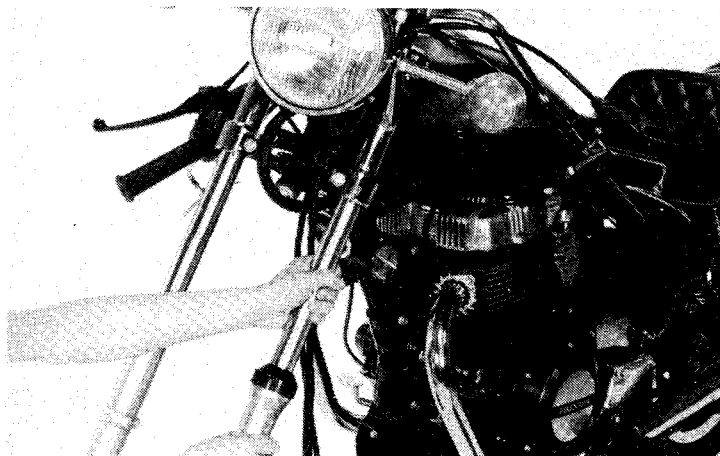
CB450T, CM450C/A: Loosen the fork top bridge pinch bolts and steering stem pinch bolts.

CM450E: Remove the fork cap bolts and loosen the steering stem pinch bolts.





Remove the front fork.



CB450T, CM450C/A:

DISASSEMBLY

WARNING

The fork tube caps are under spring pressure. Use care when removing the fork tube caps to prevent them from becoming projectiles. Wear eye and face protection.

Remove the fork cap bolt.

Remove spring A, washer and spring B from the fork tube.

Pour out fork fluid by pumping the fork up and down several times.

FORK CAP BOLT

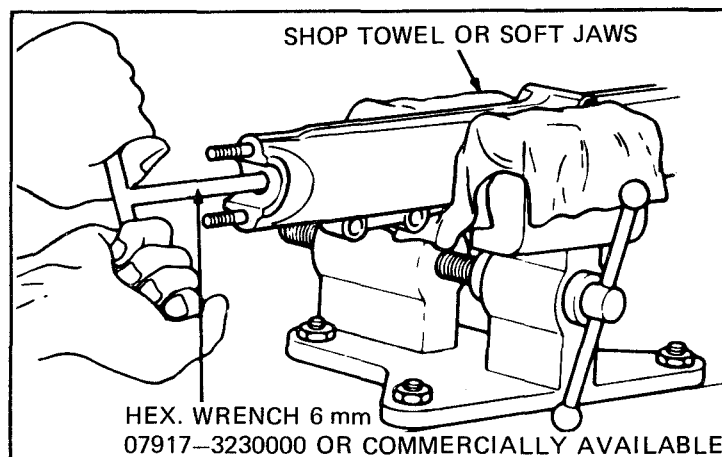


Remove the socket bolt and pump the remaining ATF out through the bolt hole.

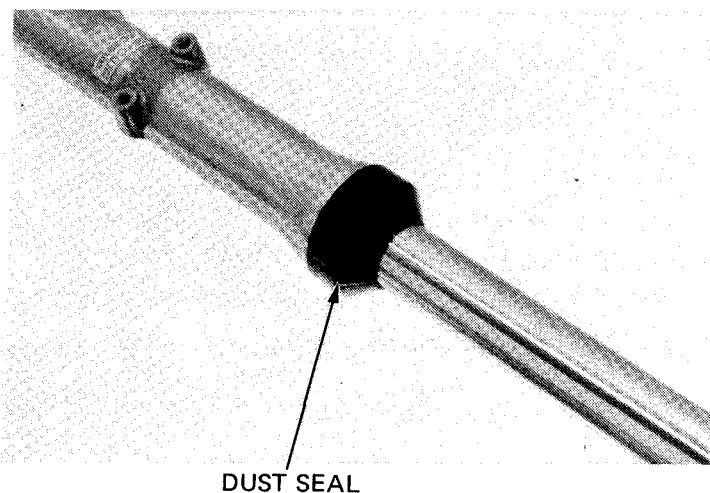
NOTE

- Hold the fork slider in a vise with soft jaws, being careful not to overtighten it.
- Temporarily install the springs and fork cap bolt if the socket bolt is difficult to remove.

Remove the piston and rebound spring.



Remove the dust seal.

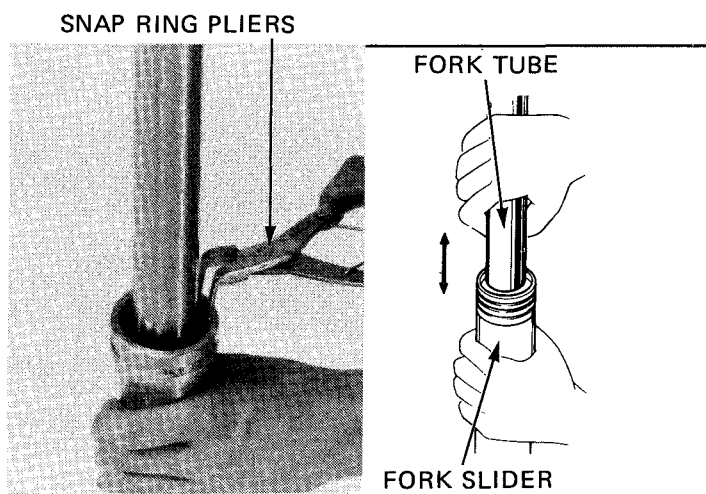


Remove the snap-ring.

Remove the back-up plate with a magnet.

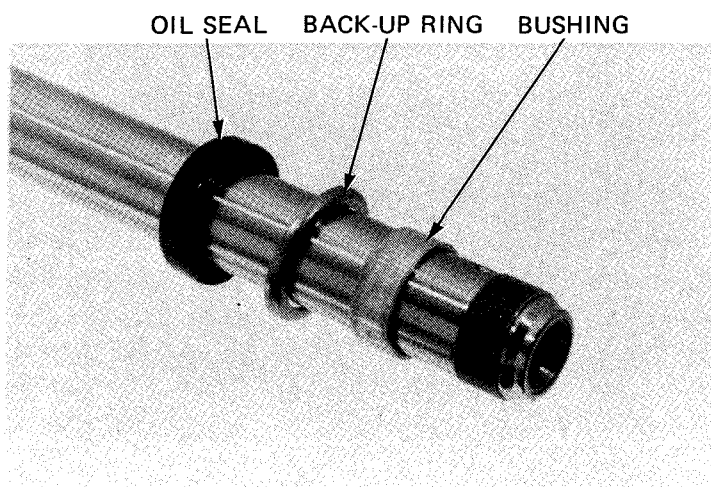
Pull the fork tube out until resistance from the slider bushing is felt.

Then move it in and out, tapping the bushing lightly until the fork tube separates from the slider. The slider bushing, seal and back-up ring will come out with the fork tube.



Remove the oil seal, back-up ring and bushing from the fork tube.

Remove the oil lock piece from inside the slider.





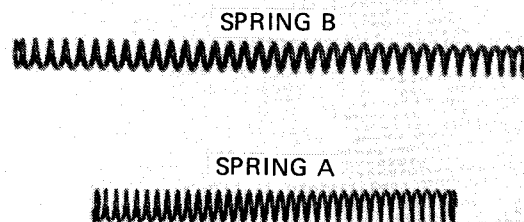
CB450T, CM450C/A: INSPECTION

Check the free length of the fork springs.

Replace the springs if shorter than the service limit.

SERVICE LIMITS:

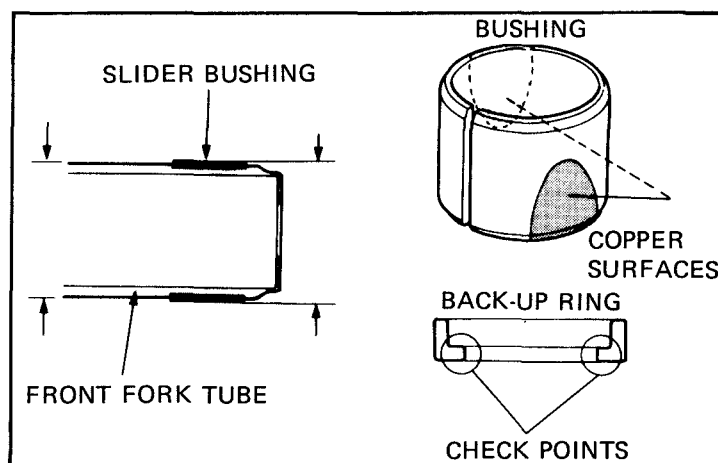
	SPRING A	SPRING B
CM450C/A	232 mm (9.13 in)	355 mm (14.0 in)
CB450T	235 mm (9.25 in)	335 mm (13.2 in)



Check the fork tubes, fork sliders and pistons for score marks, scratches, excessive or abnormal wear, replacing those which can not be reused.

Measure the outside diameter of the fork tube.

SERVICE LIMIT: 32.90 mm (1.295 in)



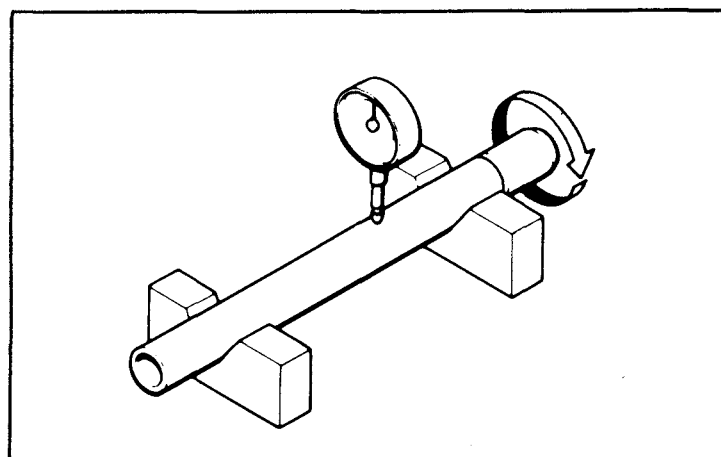
Visually inspect the slider and fork tube bushings.

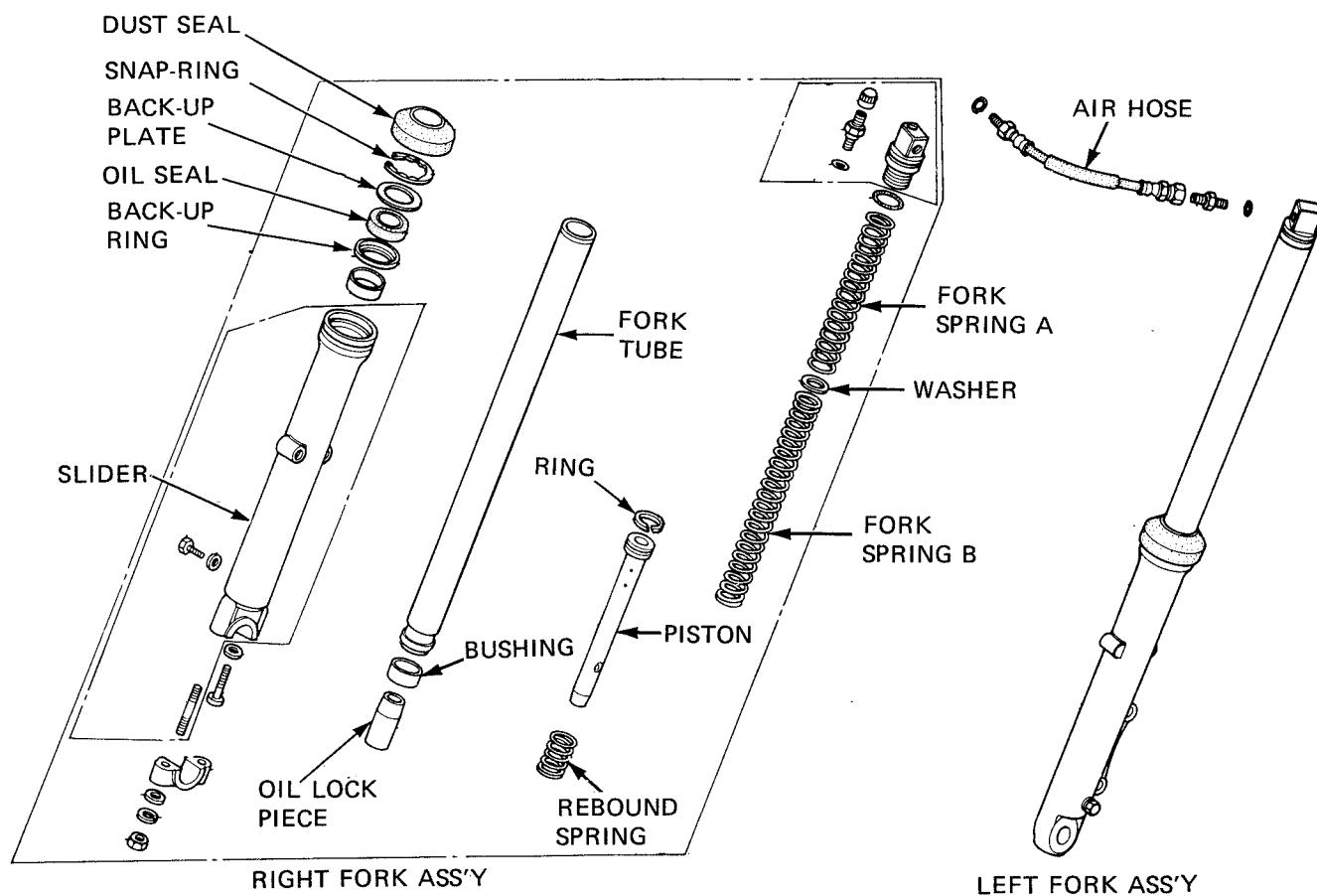
Replace if there are excessive scores or scratches, or if the teflon overlay is worn so that the copper surface appears on more than 3/4 of the entire surface.

Check the back-up ring at the points shown and replace if there is any distortion.

Set the fork tube in V-blocks and measure the run-out. Take 1/2 the total indicator reading to determine to actual runout.

SERVICE LIMIT: 0.2 mm (0.01 in)

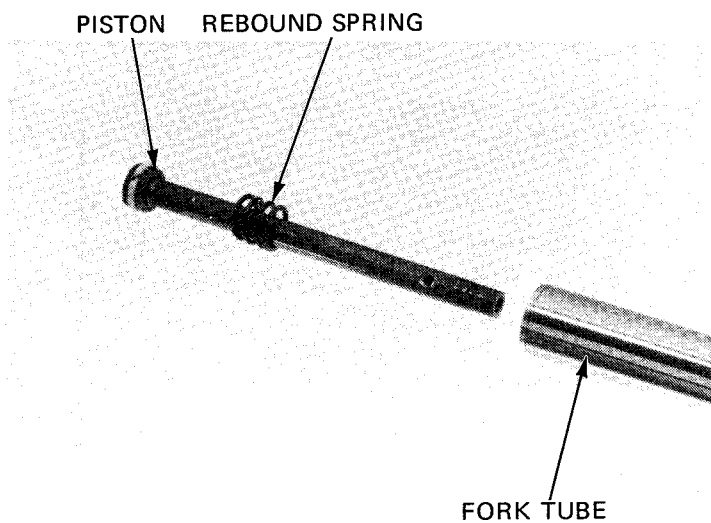




CB450T, CM450C/A: ASSEMBLY

Clean all disassembled parts.

Slide the rebound spring onto the piston and insert the piston into the fork tube.

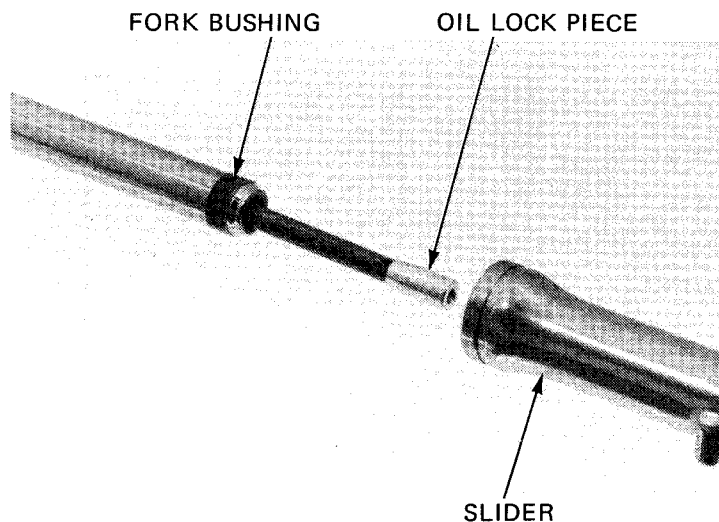




Install the fork bushing onto the fork tube.

Install the oil lock piece onto the end of the piston.

Insert the fork tube into the slider.

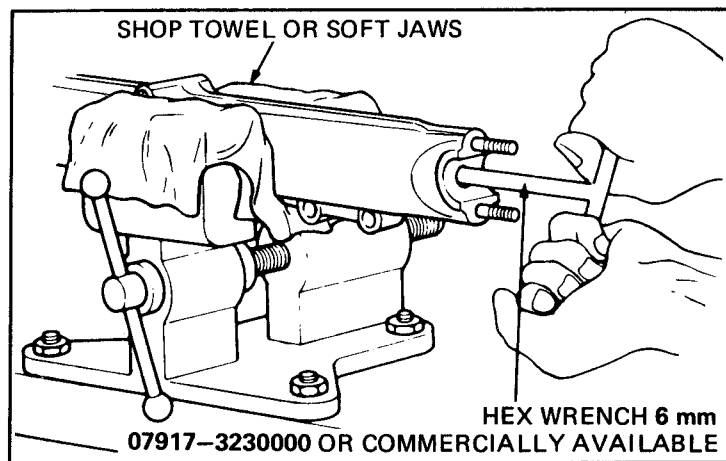


Apply a locking agent to the socket bolt and thread it into the piston. Tighten with a hex wrench.

TORQUE: 15–25 N·m (1.5–2.5 kg·m, 11–18 ft·lb)

CAUTION:

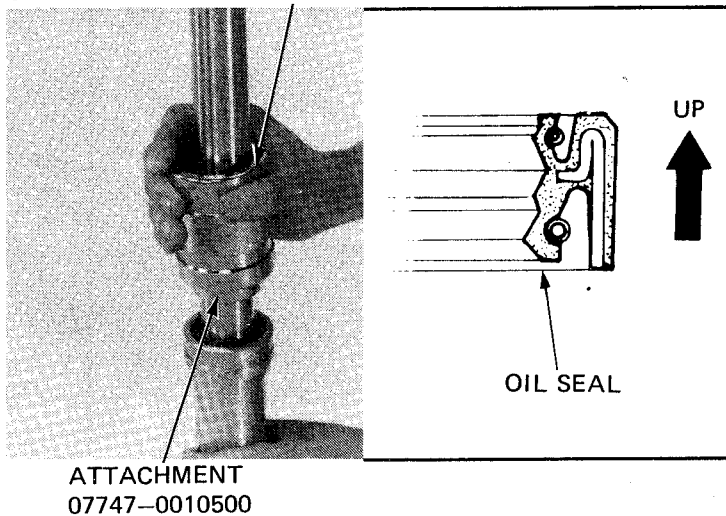
Do not overtighten the fork slider in the vise.



Place the slider bushing over the fork tube and rest it on the slider. Put the back-up ring and old bushing or equivalent tool on top of the new bushing. Drive the bushing into place with the seal driver.

Dip the new oil seal in ATF and install it over the fork tube with the marks facing up. Drive the oil seal into position until the snap-ring groove appears.

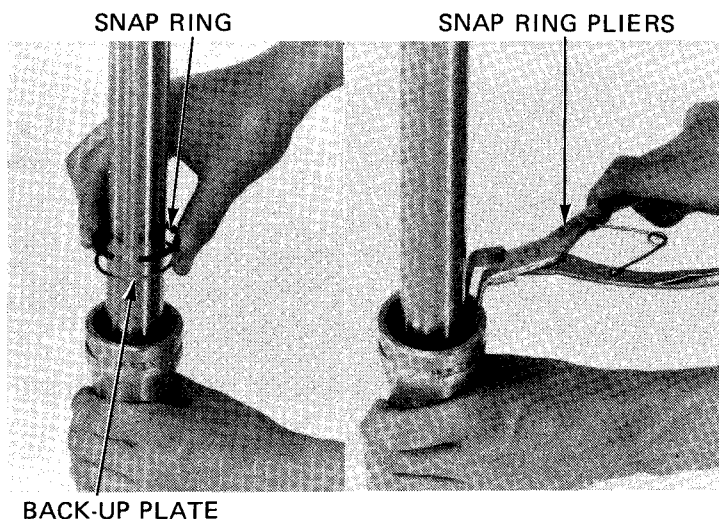
FORK SEAL DRIVER
07747-0010100 or 07947-3290000





Install the back-up plate.

Install the snap-ring and dust cover.



Use ATF (Automatic Transmission Fluid) to fill the forks.

CAPACITY:

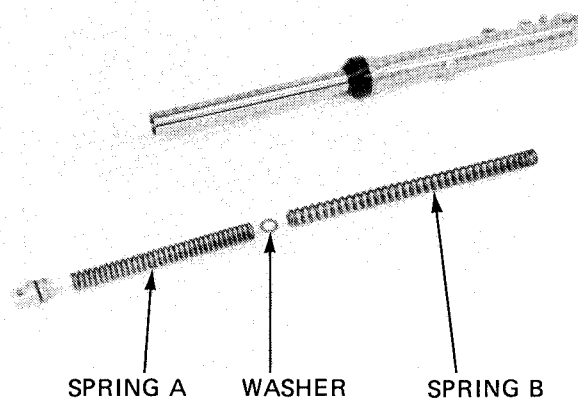
CM450C, A: 220 cc (7.45 oz)

CB450T : 187 cc (6.3 oz)

NOTE

Do not overfill.

Insert spring B, washer and spring A into the fork tube and install the fork cap bolt.



CM450E: DISASSEMBLY

Hold the fork tube in a vise

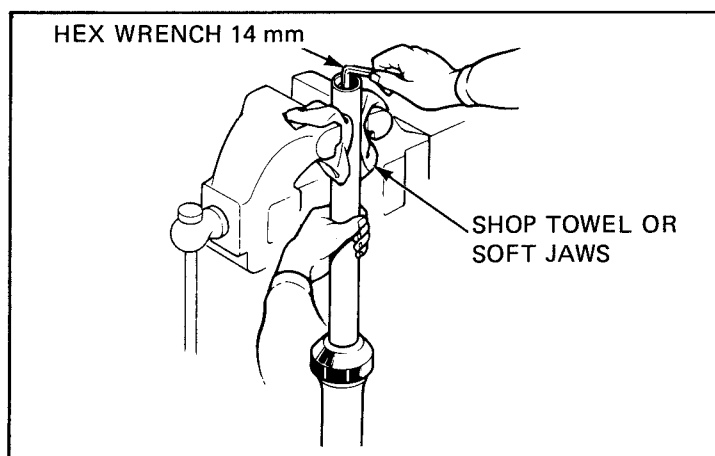
Loosen the fork spring inner bolt.

CAUTION :

Do not damage or bend the sliding surface.

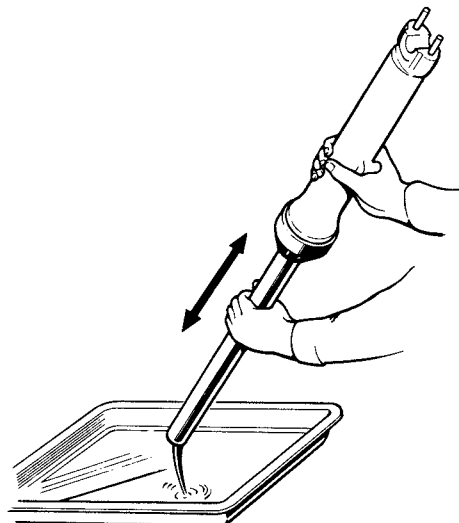
WARNING

Use care when loosening the bolt or the spring will pop out.





Pour out any remaining fork fluid by pumping the fork up and down several times.

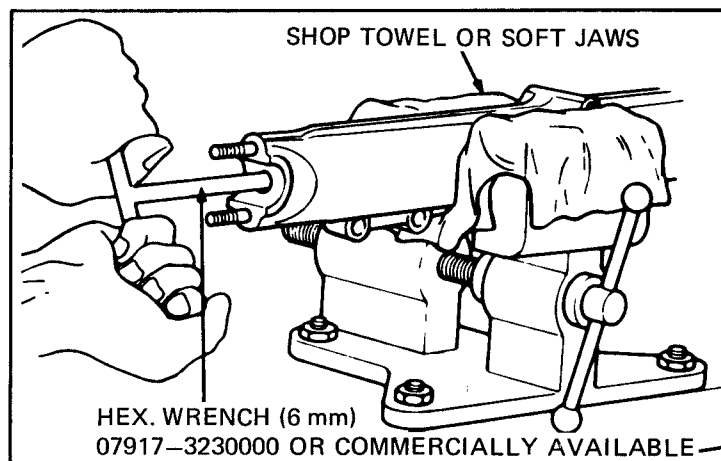


Remove the socket from the bottom of the fork leg.

Remove the fork tubes and piston.

NOTE

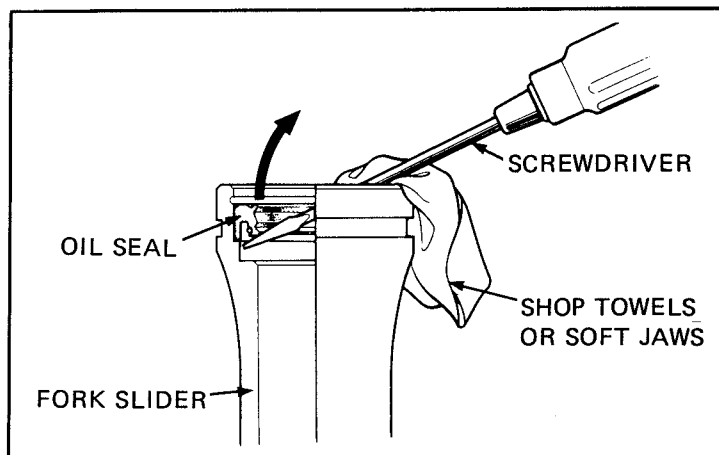
- Hold the fork slider in a vise, being careful not to tighten excessively.
- Temporarily install the spring and fork bolt should difficulty be encountered in removing the bolt.



Carefully lift out the oil seal with a screwdriver.

NOTE

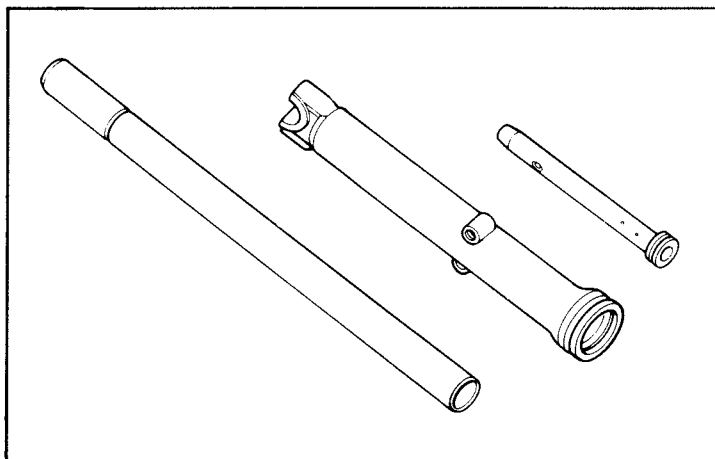
Avoid damaging the inner and outer surfaces of the slider when removing the seal.





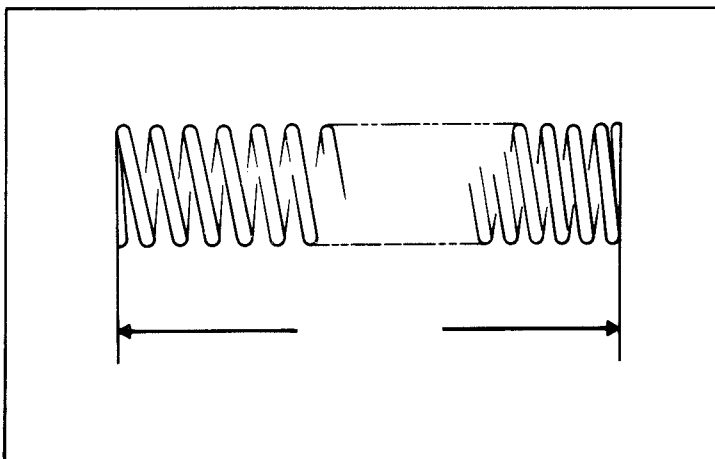
CM450E: INSPECTION

Check the fork tube, fork slider and piston for score marks, scratches, or excessive or abnormal wear, replacing those which are damaged.



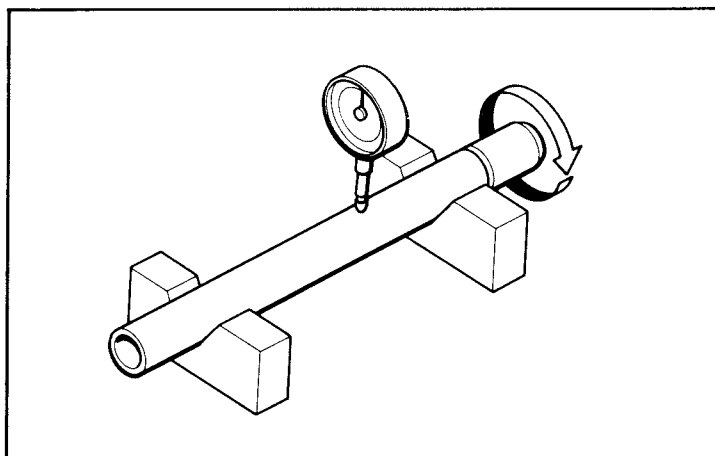
Measure the fork spring free length.

SERVICE LIMIT: 480 mm (18.9 in)



Set the fork tube in V blocks and read the runout. Take 1/2 the total indicator reading to determine the actual runout.

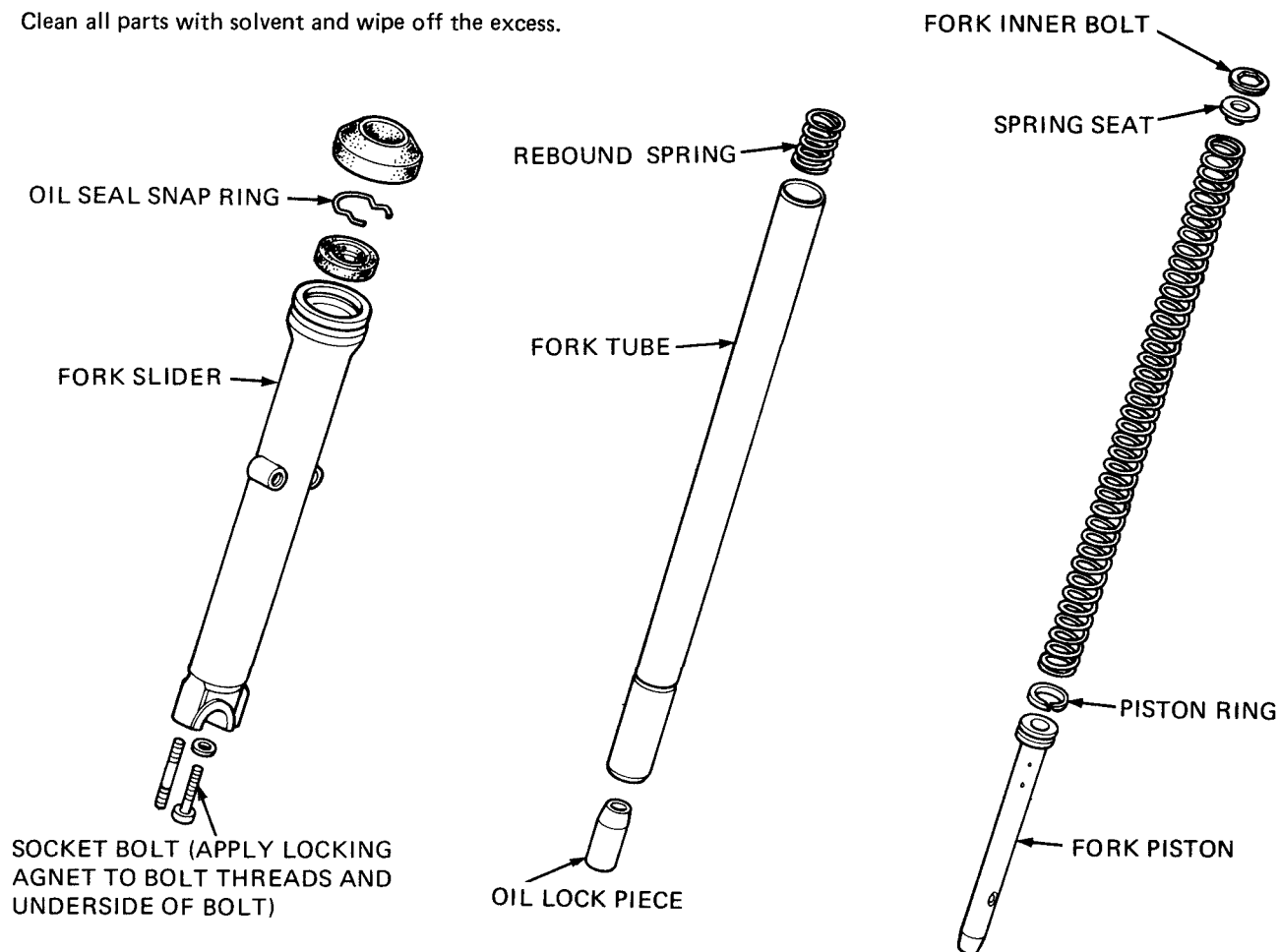
SERVICE LIMIT: 0.2 mm (0.01 in)





CM450E: ASSEMBLY

Clean all parts with solvent and wipe off the excess.



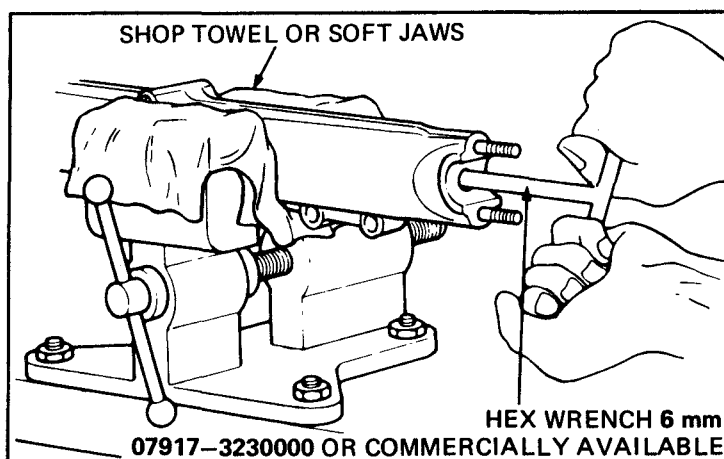
Install the piston and fork tube.

Apply a locking agent to the bolt threads and underside of the bolt, then tighten to the specified torque.

TORQUE: 15–25 N·m (1.5–2.5 kg-m, 11–18 ft-lb)

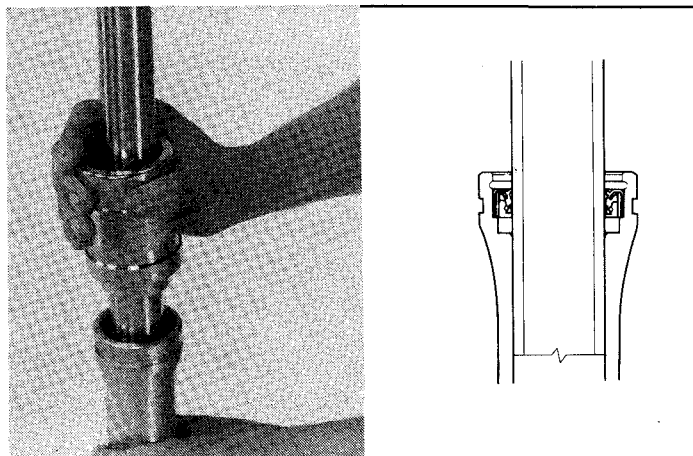
CAUTION:

Do not tighten the fork slider excessively in a vise.



Drive the oil seal into position until the snap ring groove appears.

Install the snap ring and dust cover.

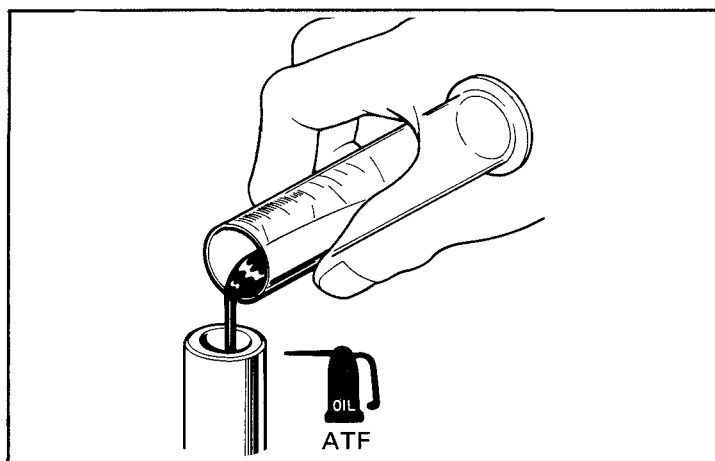


Use ATF (Automatic Transmission Fluid) to fill the front fork.

NOTE

Pour the specified amount of ATF. Do not overfill.

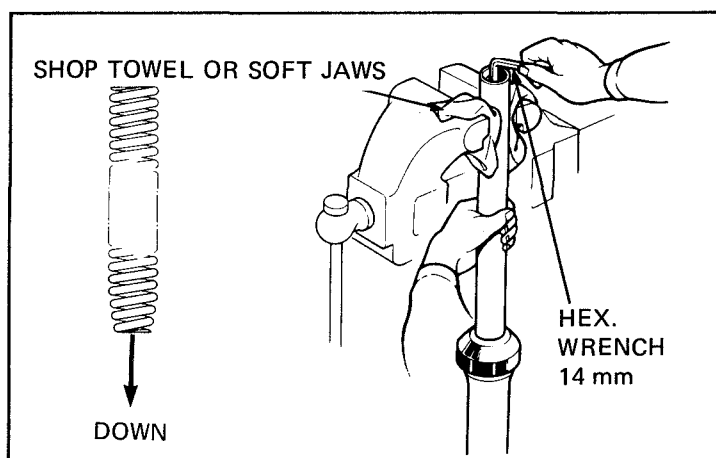
CAPACITY: 135 cc (4.6 oz)



Slide the front cushion spring and spring seat into position and tighten with the inner bolt.

NOTE

- Place the fork tube in soft jaws, avoiding the sliding surface.
- Note the spring direction.



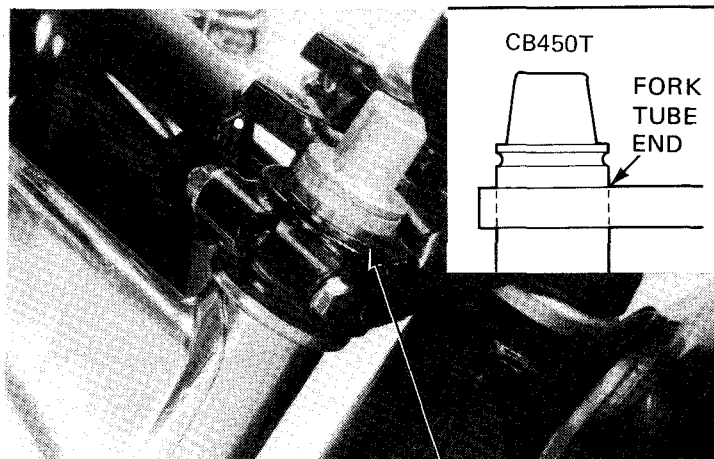


INSTALLATION

Install the fork tubes:

CM450C/A: Align the line on the fork tube with the upper surface of the fork top bridge.

CB450T: Align the fork tube end with the upper surface of the fork top bridge.



CM450C/A: LINE

CB450T, CM450C/A: Tighten the fork top bridge pinch bolts.

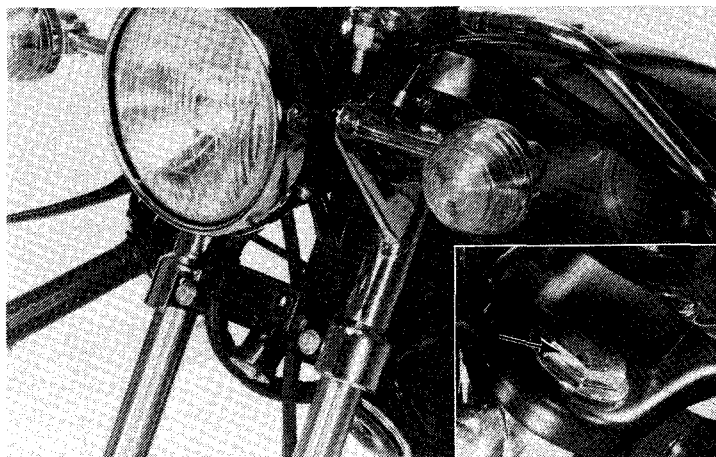
TORQUE: 9–13 N·m (0.9–1.3 kg-m, 7–9 ft-lb)

CM450E: Tighten the fork cap bolts.

TORQUE: 70–90 N·m (7.0–9.0 kg-m, 51–65 ft-lb)

Tighten the steering stem pinch bolts.

TORQUE: 18–25 N·m (1.8–2.5 kg-m, 13–18 ft-lb)

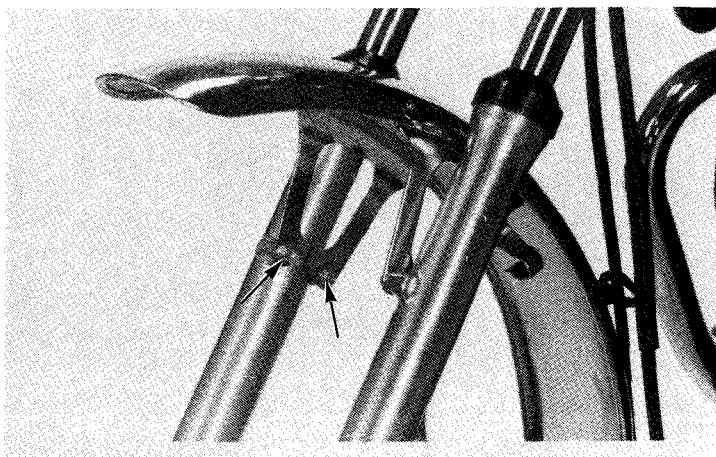


CB450T, CM450C/A: Tighten the fork cap bolt.

TORQUE: 15–30 N·m (1.5–3.0 kg-m, 11–22 ft-lb)

Install the front fender.

Install the front wheel.





FRONT WHEEL/BRAKE/SUSPENSION

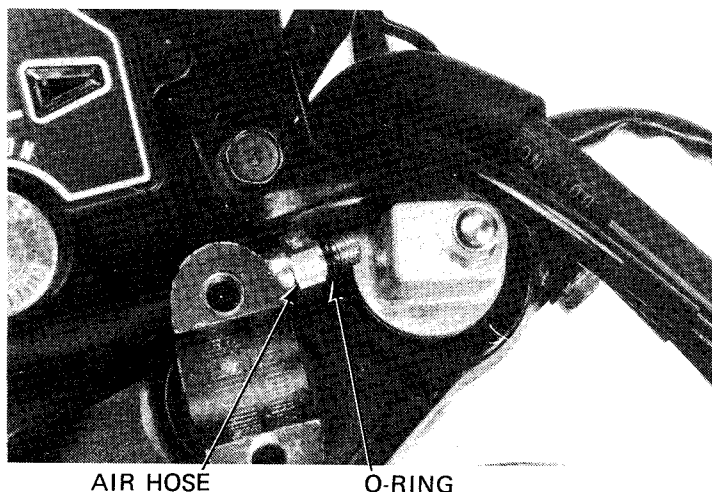
CB450T, CM450C/A: Install the air hose as follows.

Apply grease to new O-rings

Place new O-rings on the air hose and connector.

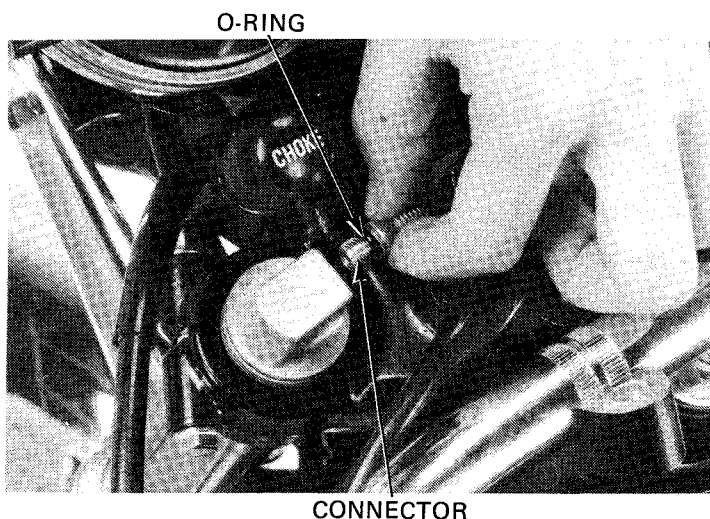
Install the air hose on the right fork.

TORQUE: 4–7 N·m (0.4–0.7 kg-m, 3–5 ft-lb)



Install the connector on the left fork.

TORQUE: 4–7 N·m (0.4–0.7 kg-m, 3–5 ft-lb)



Connect the air hose to the connector.

TORQUE: 15–20 N·m (1.5–2.0 kg-m, 11–14 ft-lb)

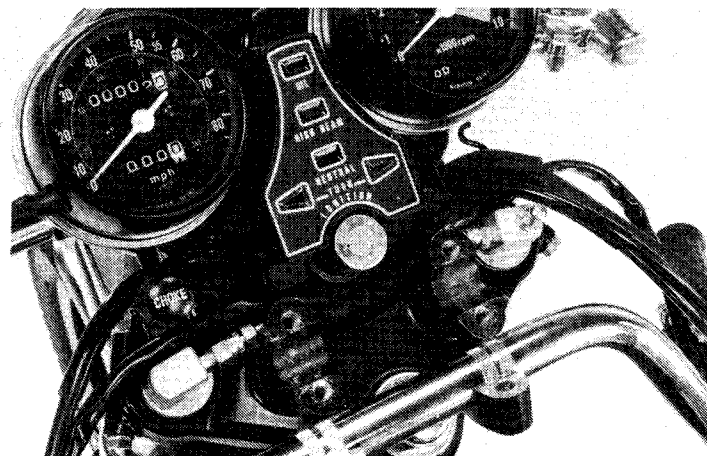
Install the handlebar.

Fill the fork tubes with air to 80 ± 20 kPa (0.8 ± 0.2 kg/cm², 11 ± 3 psi).

CAUTION:

- Use only a hand operated air pump to fill the fork tubes. Do not use compressed air.
- Maximum pressure is 300 kPa (3 kg/cm², 43 psi). Do not exceed this or fork tube component damage may occur.

With the front brake applied, pump the front forks up and down several times. Place the motorcycle on its center stand. Check the air pressure and readjust if necessary.

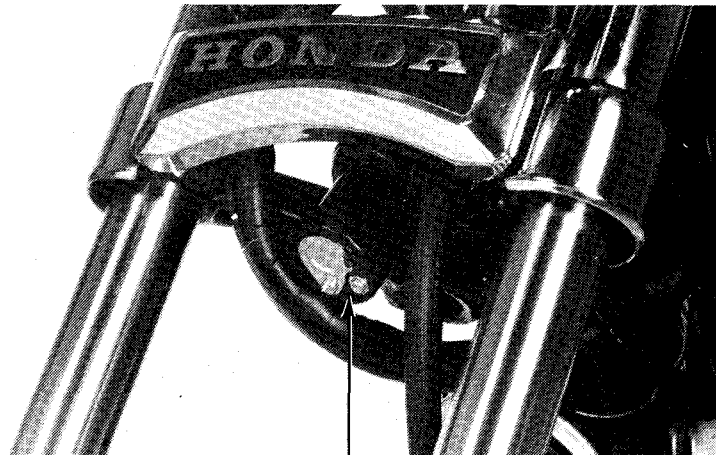




STEERING STEM

STEERING LOCK REMOVAL/ INSTALLATION

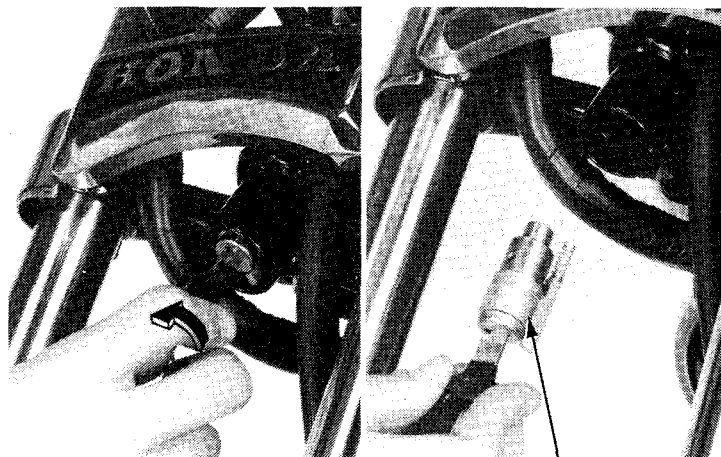
Temporarily install the front fork and tighten the
Remove the steering lock cover.



STEERING LOCK COVER

Insert the key, turn it counterclockwise and remove
the lock.

Install the steering lock in the reverse order of re-
moval.



STEERING LOCK

REMOVAL

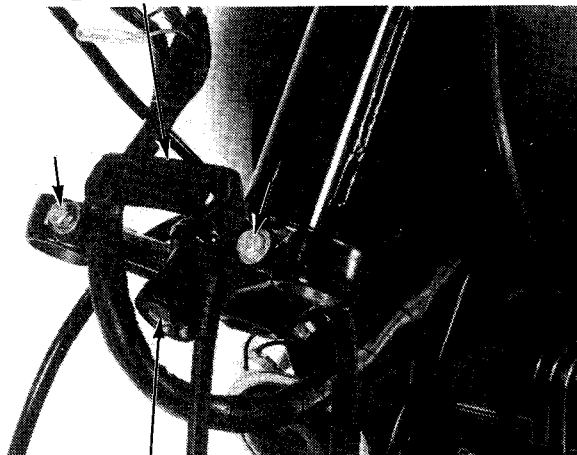
Remove the front forks.

Remove the headlight case and brackets.

Remove the steering lock.

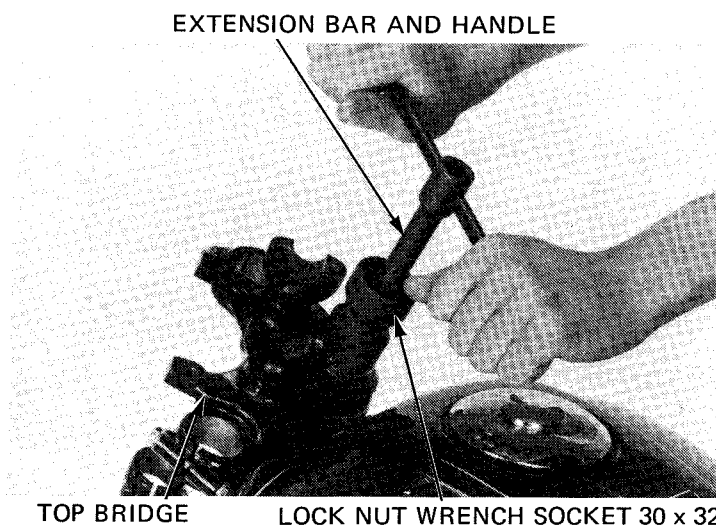
Remove the stem pinch bolts and front emblem
bracket.

EMBLEM BRACKET



STEERING LOCK

Remove the steering stem nut and fork top bridge.

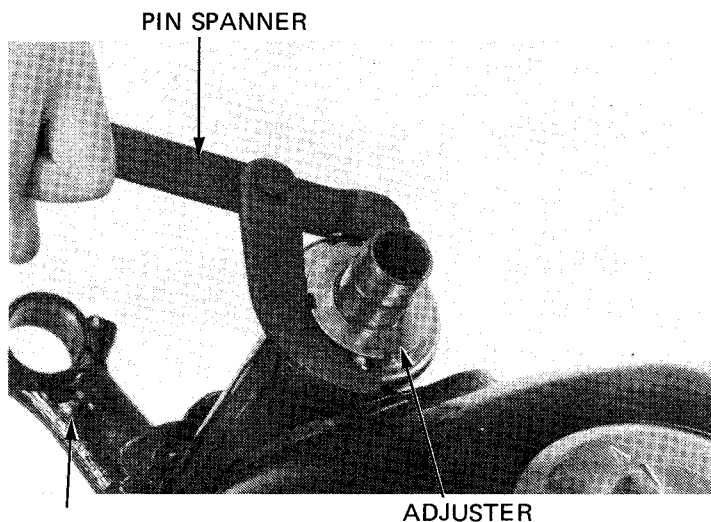


Remove the steering head adjuster.

Remove the steering stem

NOTE

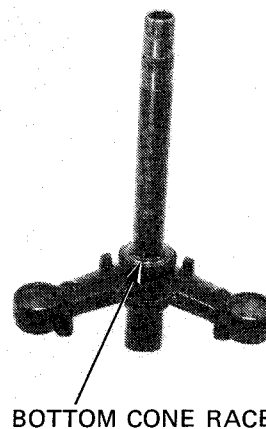
Do not allow the steel balls to fall.



BOTTOM CONE RACE REPLACEMENT

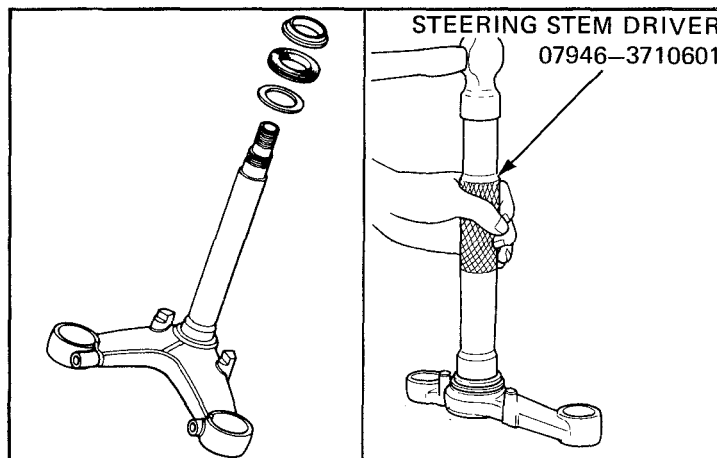
Inspect the bottom cone race for wear or damage and replace if necessary.

Remove the bottom cone race with a hammer and a drift.





Install a new washer and dust seal and drive a new bottom cone race into place.

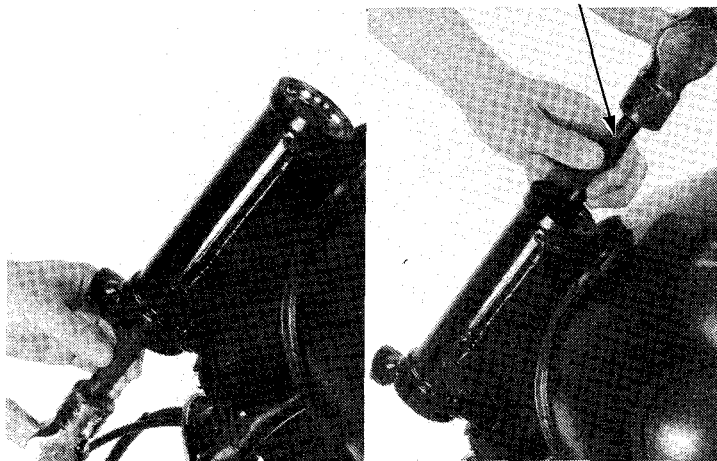


BALL RACE REPLACEMENT

Inspect the top and bottom ball races and replace if worn or damaged.

Drive out the top and bottom ball races.

BALL RACE REMOVER
07953-3330000

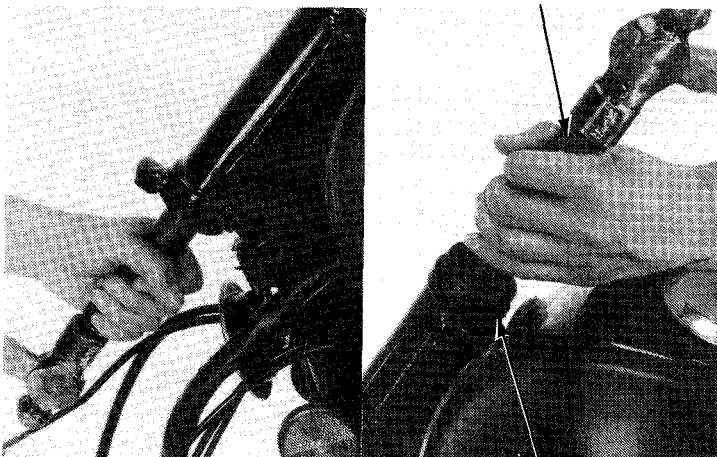


Install new top and bottom ball races.

NOTE

- Drive in the ball races squarely.
- Drive in the ball races until they seat.

DRIVER HANDLE A



BALL RACE DRIVER
07945-3330300



INSTALLATION

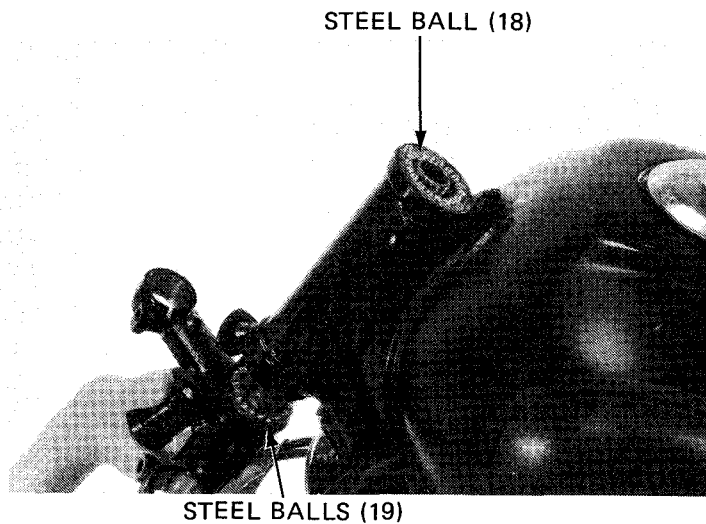
Grease the top race and install 18 ball bearings.

Grease the lower cone race and install 19 ball bearings.

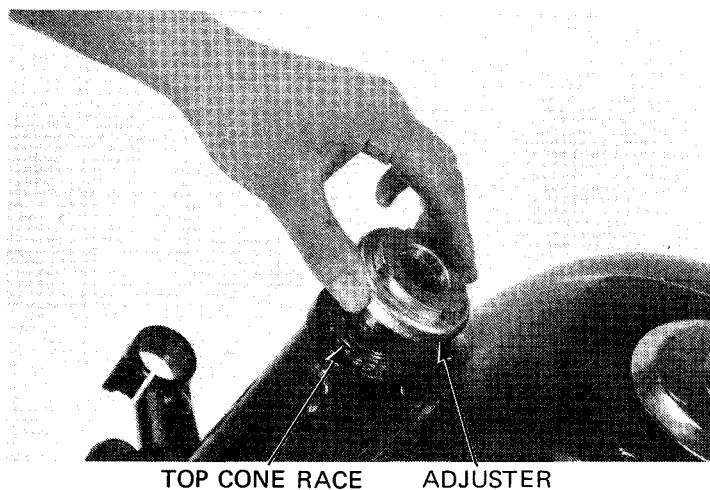
NOTE

Do not allow the balls to fall.

Install the steering stem into the frame.

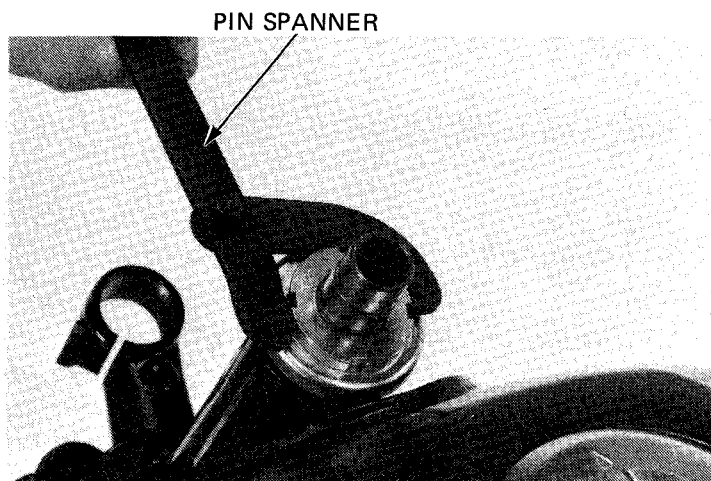


Install the top cone race and adjuster.



Tighten the adjuster until snug against the top cone race. Then, back it out 1/8 turn.

Make sure that there is no vertical movement and the stem rotates freely.





Install the fork top bridge and stem nut.

Temporarily install the front fork and tighten the stem nut.

TORQUE: 90–120 N·m (9.0–12.0 kg·m, 65–87 ft·lb)

Remove the fork.

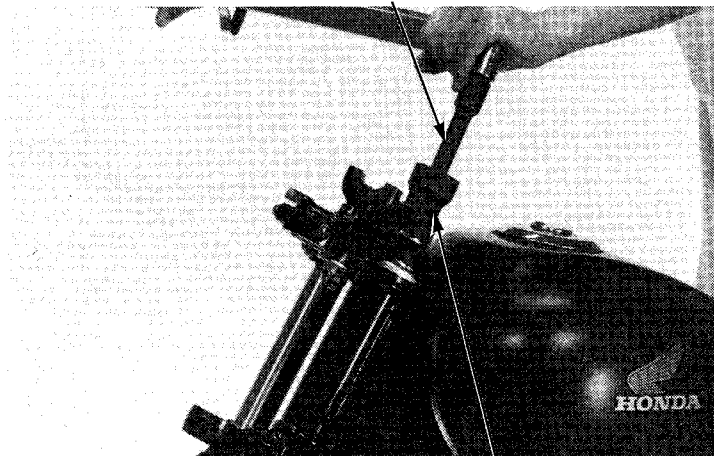
Install the front emblem bracket and stem pinch bolts.

Install the headlight brackets.

Install the front forks.

Install the headlight case.

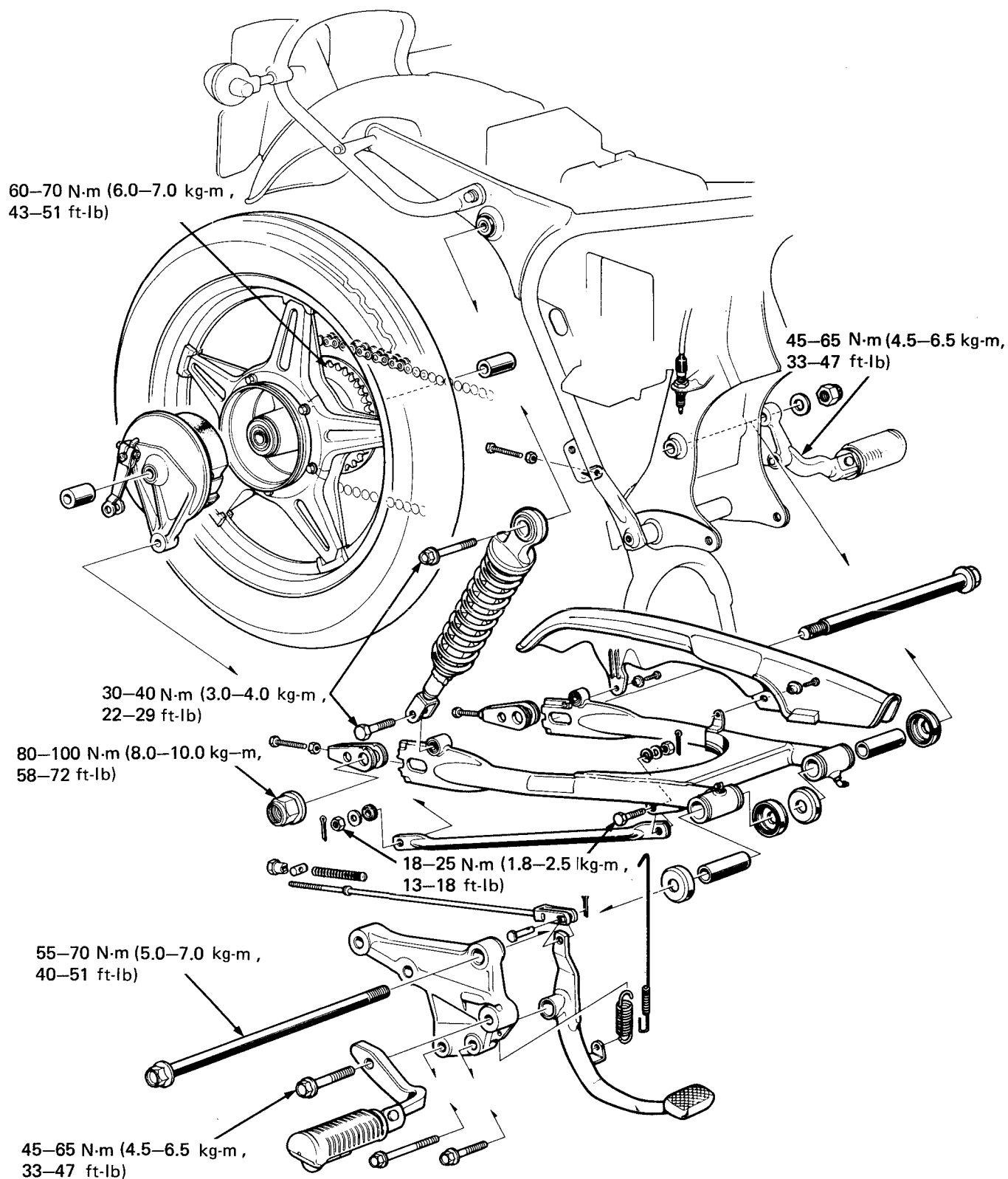
EXTENSION BAR



LOCK NUT WRENCH SOCKET 30 x 32



REAR WHEEL/BRAKE/SUSPENSION





SERVICE INFORMATION	16-1
TROUBLESHOOTING	16-2
REAR WHEEL	16-3
SHOCK ABSORBER	16-8
SWINGARM	16-11
BRAKE PEDAL	16-13

SERVICE INFORMATION

GENERAL

- The rear wheel of the CB450T and CM450C/A uses a tubeless tire. For tubeless tire repairs, refer to the Tubeless Tire Manual.
- Do not remove rivets, nuts and pins from the rim, spoke plate and hub.
- Never ride on the rim or try to bend the wheel.
- Avoid damaging the aluminum alloy rim during tire removal.

SPECIFICATIONS

		STANDARD	SERVICE LIMIT
Axle bend		_____	0.2 mm (0.008 in)
Rear wheel runout	Radial	_____	2.0 mm (0.08 in)
	Axial	_____	2.0 mm (0.08 in)
Final driven sprocket I.D.		65.00 — 65.09 mm (2.560—2.563 in)	65.16 mm (2.565 in)
Rear wheel hub O.D. (L)		64.94 — 64.97 mm (2.557—2.558 in)	64.87 mm (2.554 in)
Brake lining thickness		4.9 — 5.0 mm (0.19 —0.20 in)	2.0 mm (0.08 in)
Rear brake drum I.D.		140.0 — 140.3 mm (5.51 —5.52 in)	141.0 mm (5.55 in)
Rear cushion spring free length		208.3 mm (8.20 in)	198.0 mm (7.80 in)

**REAR WHEEL/BRAKE/SUSPENSION**

TOOLS**COMMON**

Bearing driver handle A	07749-0010000
Bearing driver outer, 42 x 47 mm	07746-0010300
Bearing driver outer, 52 x 55 mm	07746-0010400
Bearing driver pilot, 17 mm	07746-0040400
Bearing driver pilot, 20 mm	07746-0040500
Rear shock absorber compressor	07959-3290001

TORQUE VALUES

Final driven sprocket	60-70 N·m (6.0-7.0 kg-m, 43-51 ft-lb)
Foot peg	45-65 N·m (4.5-6.5 kg-m, 33-47 ft-lb)
Rear axle nut	80-100 N·m (8.0-10.0 kg-m, 57-72 ft-lb)
Rear brake torque link	18-25 N·m (1.8-2.5 kg-m, 13-18 ft-lb)
Rear shock absorber	30-40 N·m (3.0-4.0 kg-m, 22-29 ft-lb)

TROUBLESHOOTING**Wobble or vibration in motorcycle**

1. Distorted rim
2. Loose wheel bearings
3. Loose or distorted spokes
4. Faulty tire
5. Loose axle

Soft suspension

1. Weak spring
2. Shock absorbers improperly adjusted
3. Weak rear damper

Hard suspension

1. Shock absorbers improperly adjusted

Suspension noise

1. Shock case binding
2. Loose fasteners

Poor brake performance

1. Improper brake adjustment
2. Fouled brake linings
3. Worn brake shoes
4. Worn brake shoe cam contacting faces
5. Worn brake drum
6. Improper engagement between brake arm and shaft serrations



REAR WHEEL

REMOVAL

Place the motorcycle on its center stand or a support block.

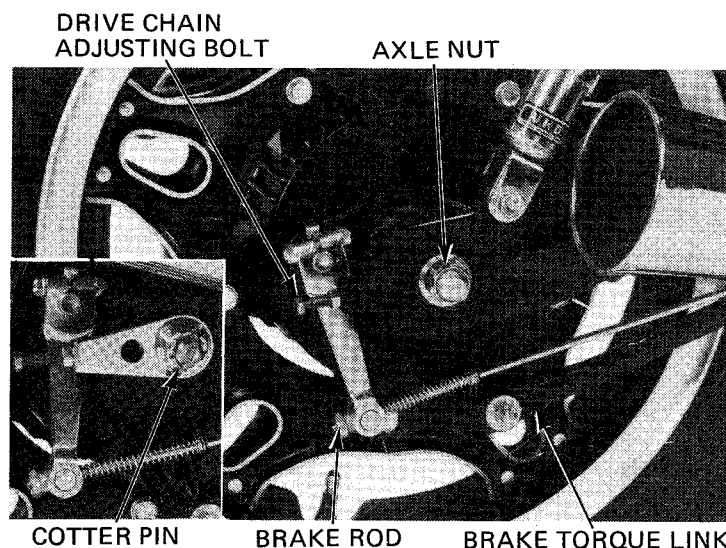
Disconnect the torque link by removing the cotter pin, nut, washer and rubber grommet.

Disconnect the brake rod from the brake arm.

Loosen the drive chain adjusting bolts.

CB450T: Remove the cotter pin from the axle nut.

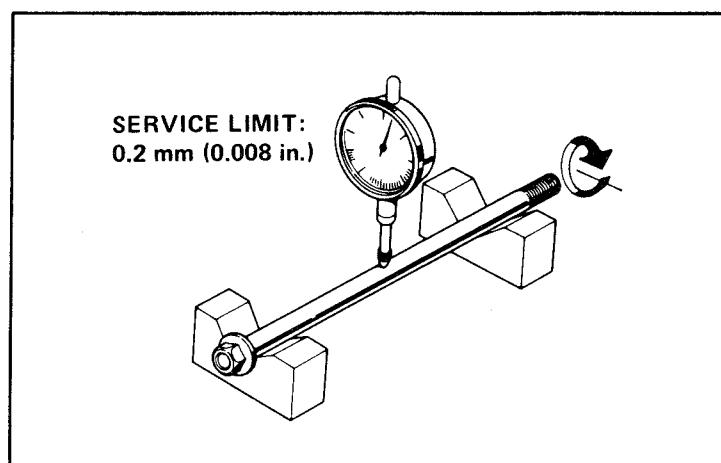
Remove the axle nut, pull the axle out and remove the rear wheel.



AXLE SHAFT BEND

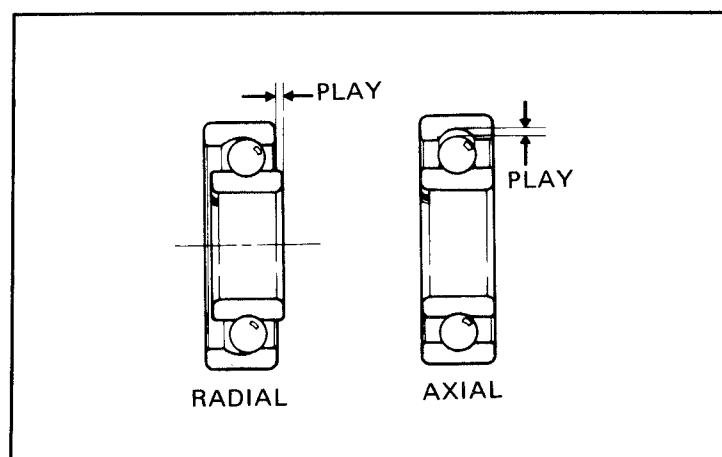
Set the axle in V blocks and check the axle runout. The actual axle runout is 1/2 of the total indicator reading.

SERVICE LIMIT: 0.2 mm (0.01 in)



REAR WHEEL BEARING PLAY

Check the wheel bearing play by rotating the wheel by hand. Replace the bearings with new ones if they are noisy or have excessive play.





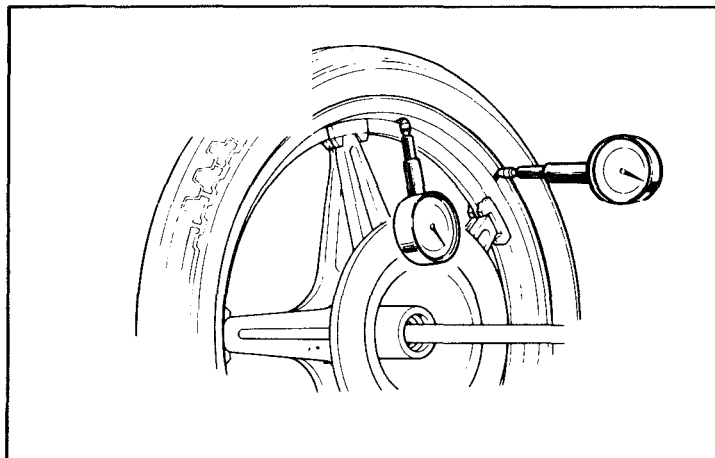
REAR WHEEL/BRAKE/SUSPENSION

REAR WHEEL RIM RUNOUT

Check the rim for runout by placing the wheel in a truing stand. Spin the wheel by hand, and read the runout using a dial indicator gauge.

NOTE

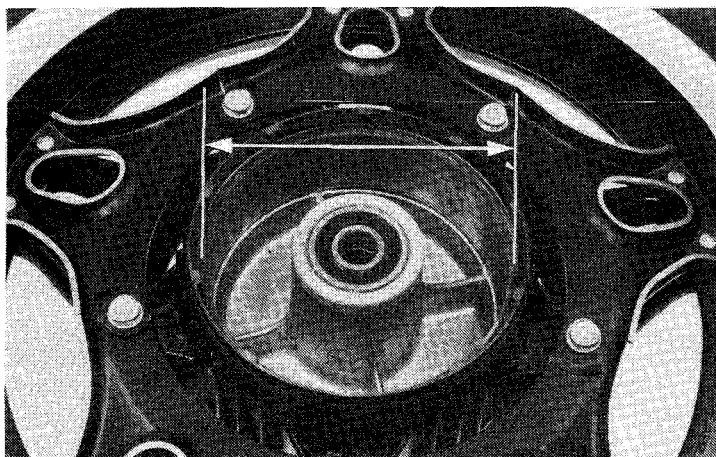
The COMSTAR WHEEL cannot be serviced and must be replaced if the above limits are exceeded.



REAR BRAKE DRUM I.D.

Measure the rear brake drum I.D.

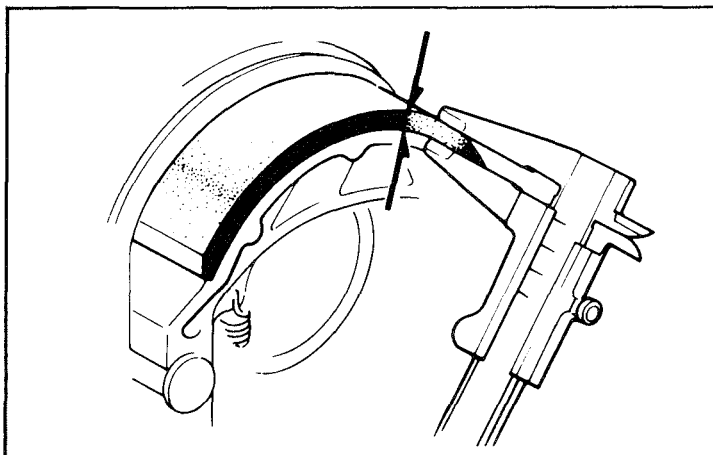
SERVICE LIMIT: 141.0 mm (5.55 in)



BRAKE LINING THICKNESS

Measure the rear brake lining thickness.

SERVICE LIMIT: 2.0 mm (0.10 in)



REAR BRAKE SHOE REPLACEMENT

Remove the cotter pin and washer.

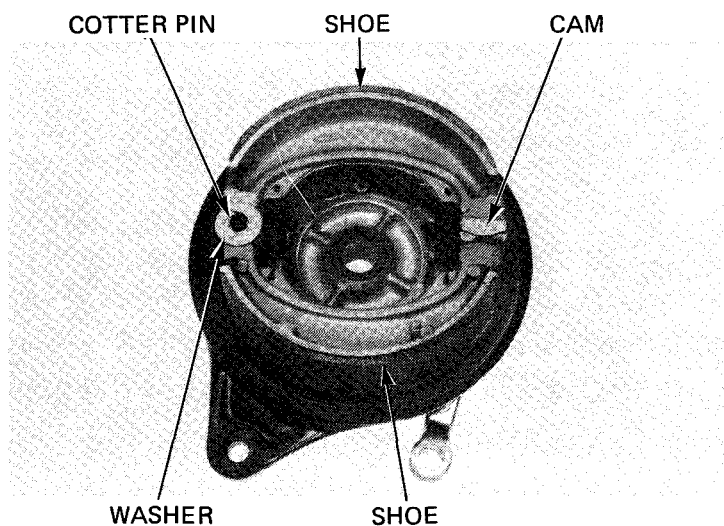
Remove the brake shoes.

Apply grease to the face of the brake cam and anchor pin.

Install new brake shoes.

WARNING

Grease on the brake linings reduces stopping power. Keep grease off the linings. Wipe excess grease off the cam.



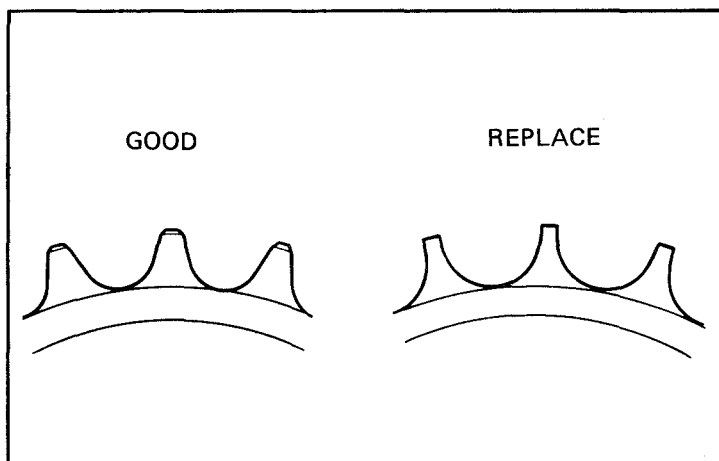
FINAL DRIVEN SPROCKET AND REAR WHEEL HUB INSPECTION

Check the condition of the final driven sprocket teeth.

Replace the sprocket if worn or damaged.

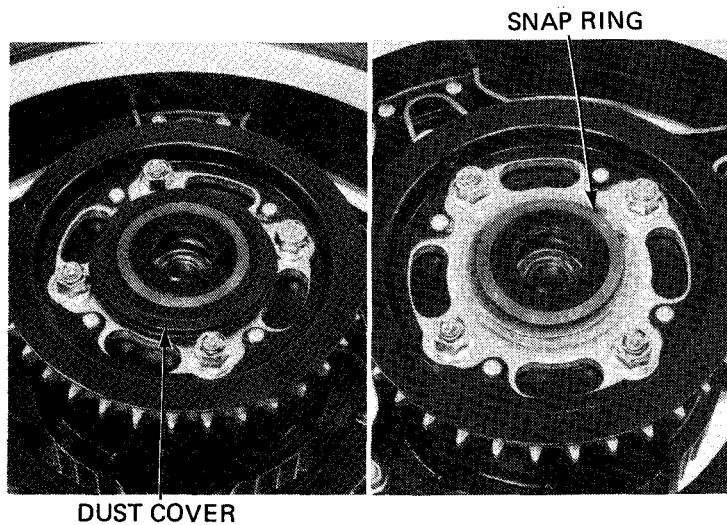
NOTE

The drive chain and drive sprocket must also be inspected if the driven sprocket is worn or damaged.



Remove the dust cover.

Remove the snap ring and final driven sprocket.

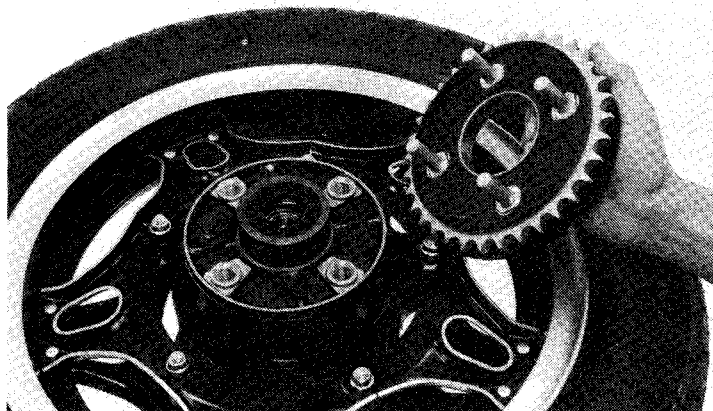


Measure the final driven sprocket I.D.

SERVICE LIMIT: 65.16 mm (2.565 in)

Measure the rear wheel hub O.D. on the left side.

SERVICE LIMIT: 64.87 mm (2.554 in)

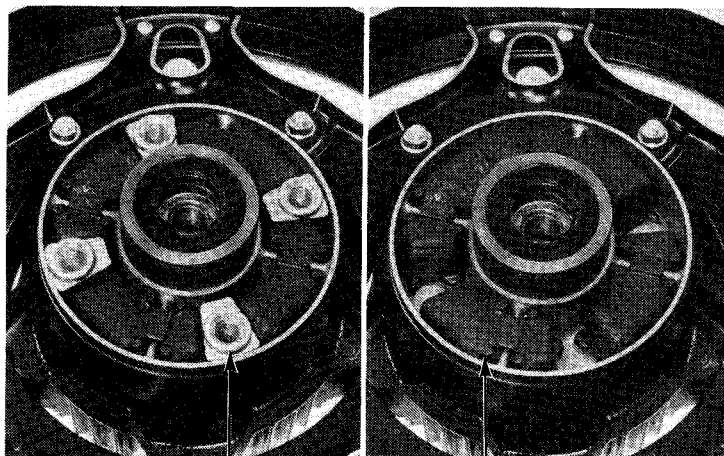


DAMPER RUBBER INSPECTION

Replace the damper rubbers if they are damaged or deteriorated.

NOTE

Note the damper collar location.



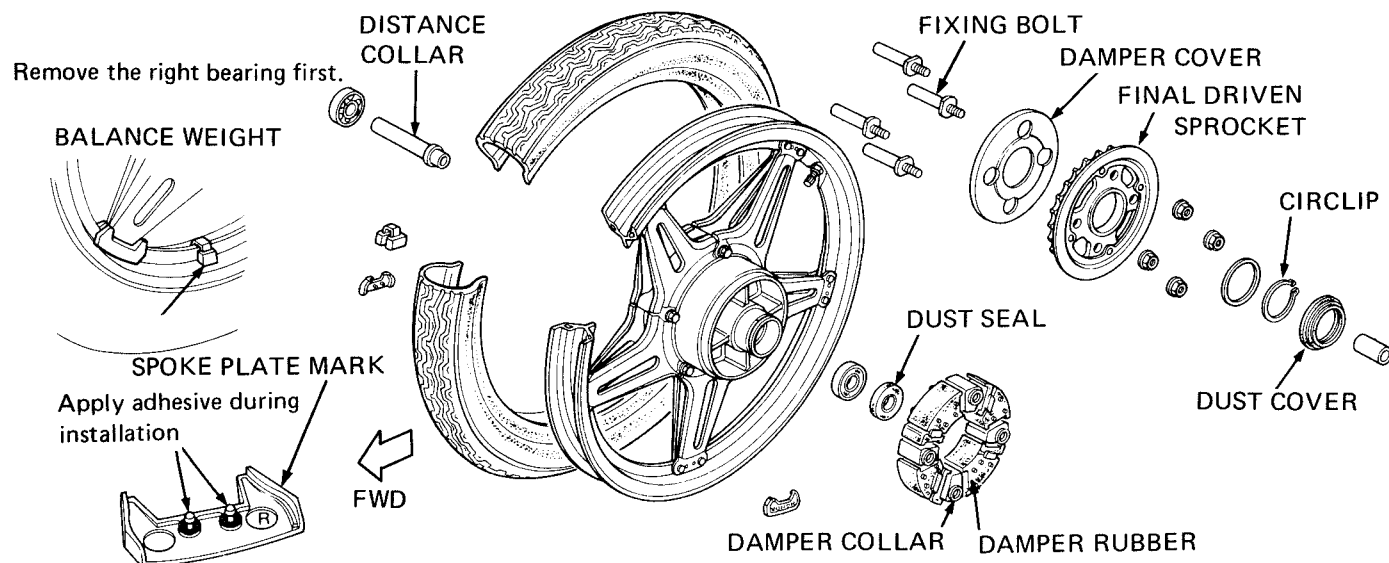
DAMPER COLLAR

DAMPER RUBBER

DISASSEMBLY

CB450T, CM450C/A:

Remove the right bearing first.

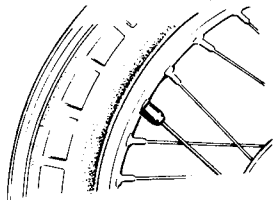




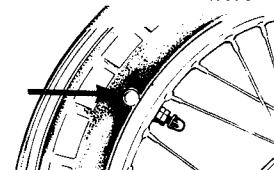
CM450E:

Remove the right bearing first.

BALANCE WEIGHT

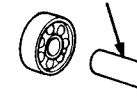


BALANCER MARK

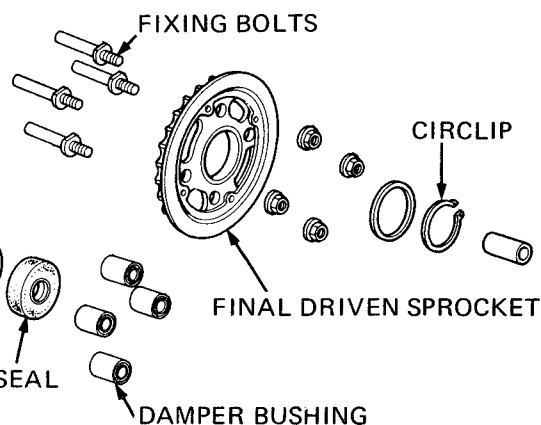


ALIGN BALANCE MARK
WITH TIRE VALVE

DISTANCE
COLLAR



FWD



ASSEMBLY

Pack all bearing cavities with grease.

Press the distance collar into place from the left side.

Drive in the right ball bearing first.

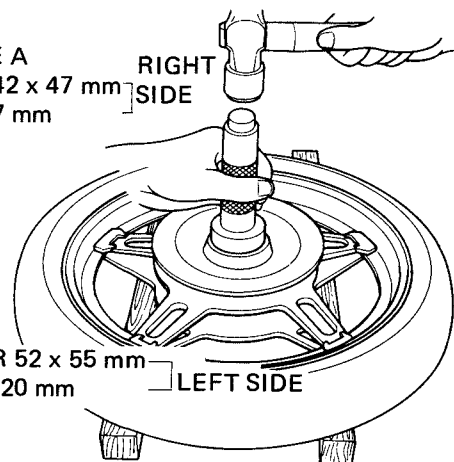
Drive in the left ball bearing last.

CAUTION:

*Drive the bearings squarely.
Install the bearings with the sealed end facing
out.*

BEARING DRIVER HANDLE A
BEARING DRIVER OUTER 42 x 47 mm
BEARING DRIVER PILOT 17 mm

RIGHT
SIDE



BEARING DRIVER OUTER 52 x 55 mm
BEARING DRIVER PILOT 20 mm

LEFT SIDE

INSTALLATION

Insert the axle through the wheel hub.

NOTE

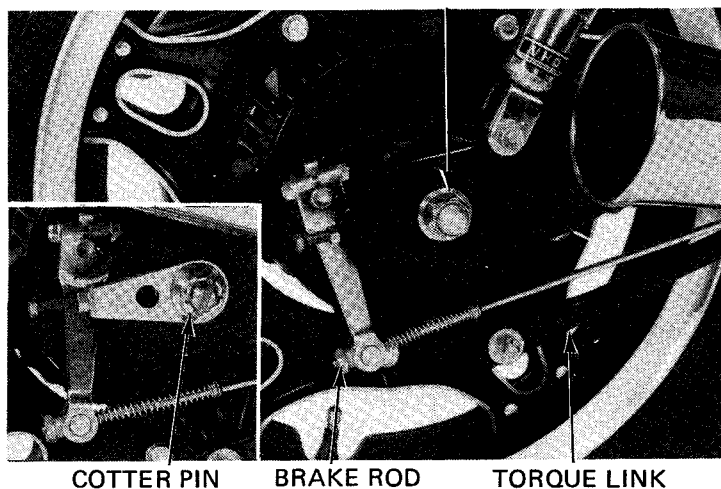
Install the long axle collar on the right side.

Connect the brake torque link, and install the rubber grommet, washer and nut,

**TORQUE: 18–25 N·m (1.8–2.5 kg·m,
13–18 ft·lb)**

Secure the nut with a new cotter pin.
Connect the brake rod.
Adjust the drive chain (page 3–17).
Adjust the rear brake (page 3–21).

REAR AXLE NUT



COTTER PIN

BRAKE ROD

TORQUE LINK



SHOCK ABSORBER

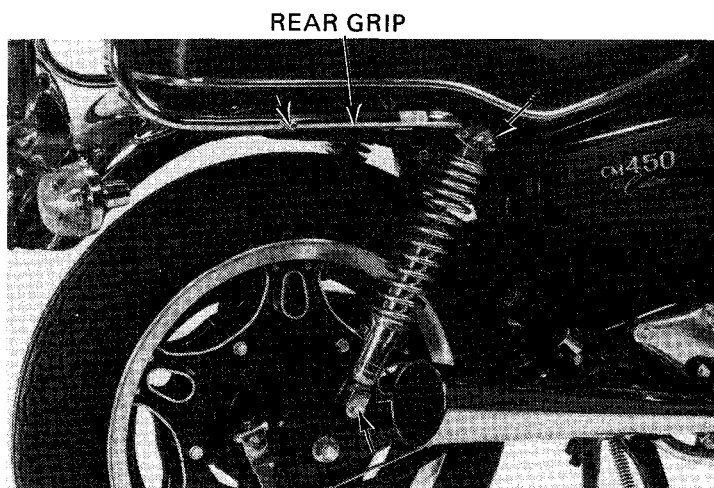
REMOVAL

CM450C/E/A:

Remove the shock absorber mounting nut and bolt.

Remove the rear grip mounting bolt.

Remove the shock absorber.

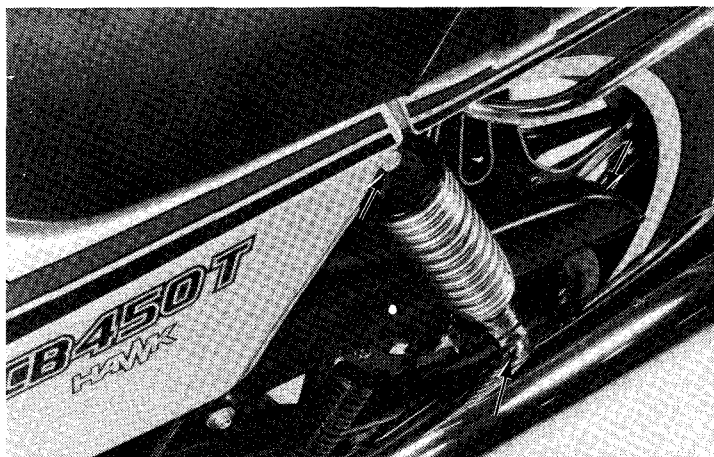


CB450T:

To remove the left shock absorber, remove the chain cover.

Remove the upper mounting bolt first, then remove the lower mounting bolt.

Remove the shock absorber.

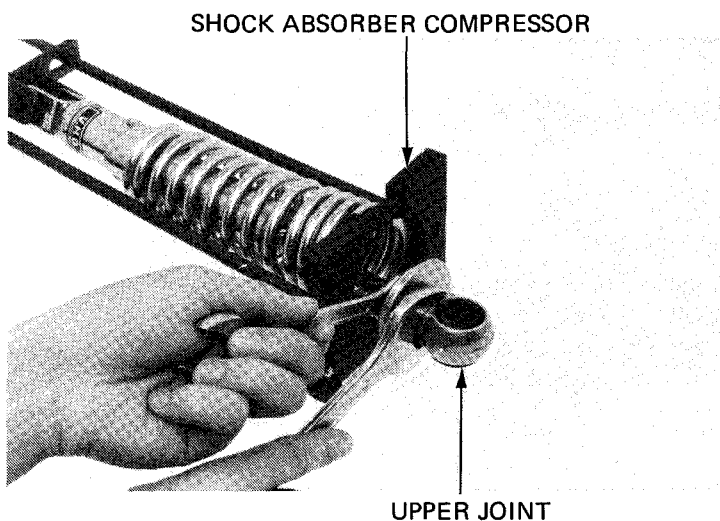


DISASSEMBLY

CM450C/E/A:

Compress the spring.

Remove the upper joint and disassemble the shock absorber.





CB450T:

Remove the lock nut and washer.

Set the shock absorber in the shock absorber compressor.

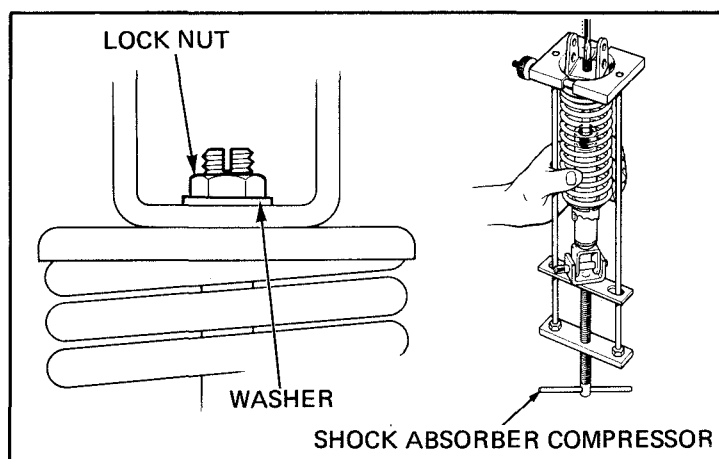
Screw the rod in until it is free from the upper joint.

NOTE

Before disassembling the shock absorber rotate the adjuster to the softest position.

CAUTION:

Do not damage the upper joint threads with the end of the screwdriver.

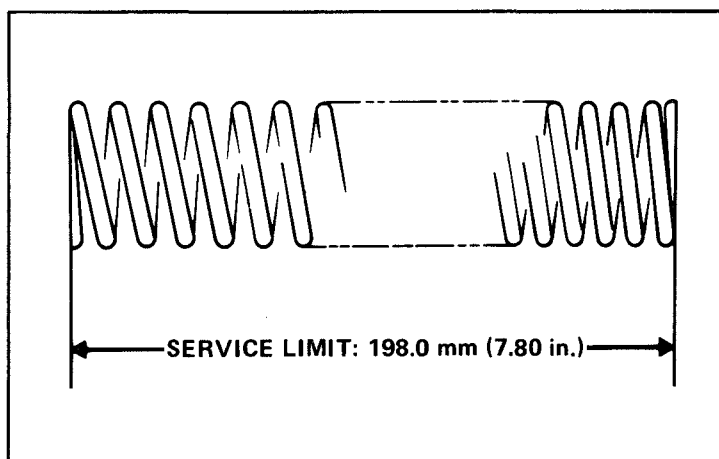


INSPECTION

Check the shock absorber spring free length and replace the spring if shorter than the service limit.

SERVICE LIMIT: 198.0 mm (7.80 in)

Inspect the shock absorber damper for damage or oil leaks. Replace the damper if it is damaged or leaking.



ASSEMBLY

CM450C/E/A:

Install the spring adjuster, the spring seat, spring and stopper rubber on the damper.

NOTE

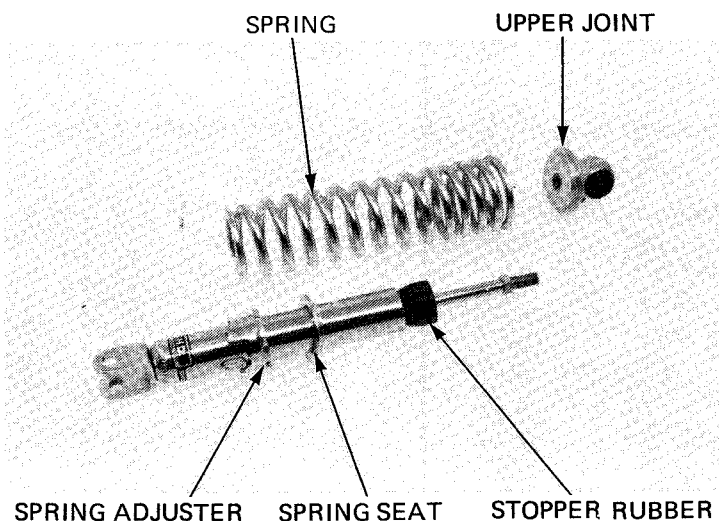
Install the spring with the tightly wound end facing up.

Apply a locking agent to the rod threads and tighten the lock nut securely.

Attach the shock absorber compressor.

WARNING

Screw in the holder nut to prevent the spring from coming out of position.





REAR WHEEL/BRAKE/SUSPENSION

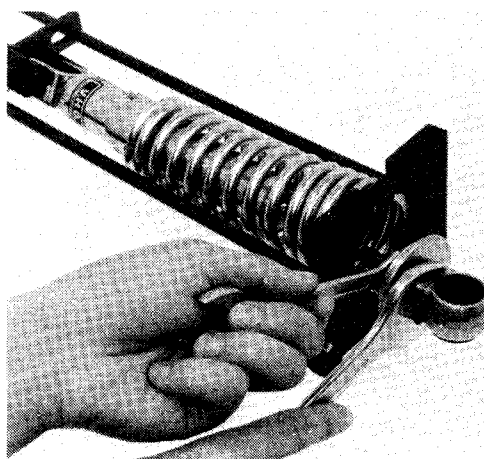
Apply locking agent to the rod threads.

Install the upper joint and tighten securely.

NOTE

Check that the locknut is seated against the rod's bottom thread.

Align the spring with the upper joint by loosening the holder nuts while releasing the compressor.

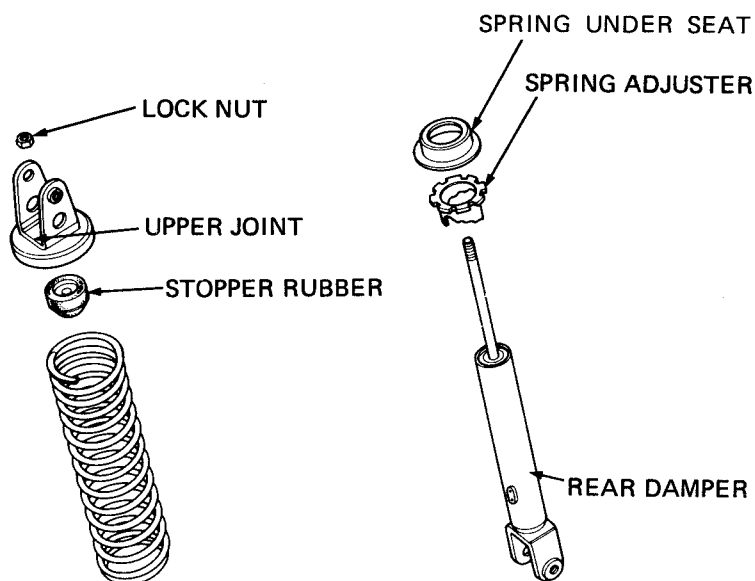


CB450T:

Install the spring adjuster, the spring seat, spring and stopper rubber on the damper.

NOTE

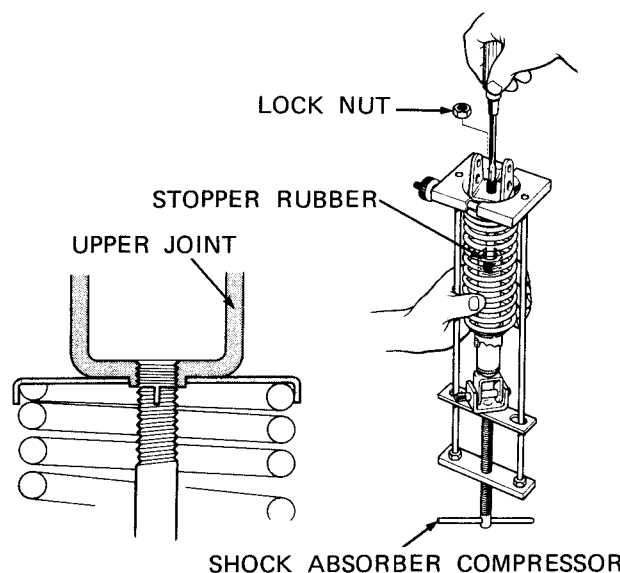
Install the spring with the tightly wound end facing up.



Extend the rod fully so that the stopper rubber is at the bottom of the rod.

Compress the spring until the slotted end of the rod contacts the upper joint.

Applying the end of a screwdriver to the rod slot, turn the rod into the upper joint fully. Install the lock nut on the end of the rod and tighten securely.





INSTALLATION

CM450C/E/A:

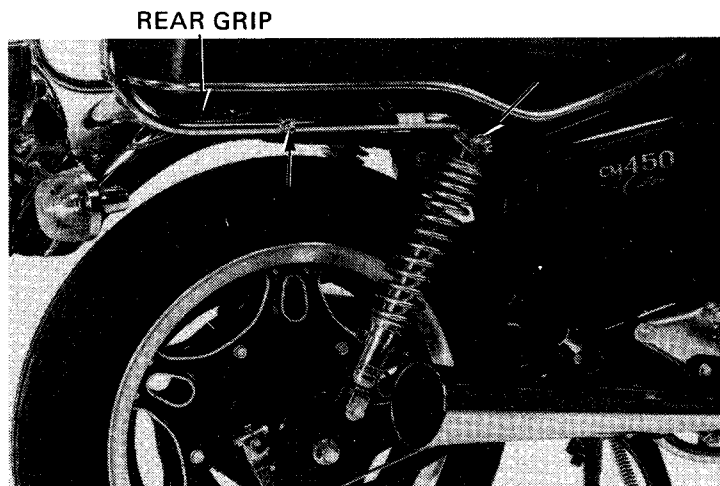
Install the rear shock absorber.

Install the rear grip mounting bolt and tighten securely.

Install the shock absorber mounting nut and bolt.

**TORQUE: 30–40 N·m (3.0–4.0 kg-m,
22–29 ft-lb)**

Position the right and left spring adjuster equally.



CB450T:

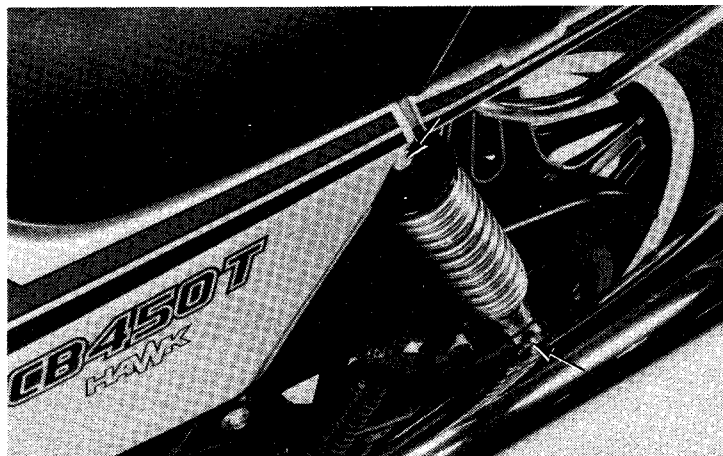
Lift the rear wheel and install the left absorber lower bolt, with the right absorber removed.

Install the right shock absorber and tighten the mounting bolts.

**TORQUE: 30–40 N·m (3.0–4.0 kg-m,
22–29 ft-lb)**

Install the drive chain cover.

Position the right and left spring adjuster equally.

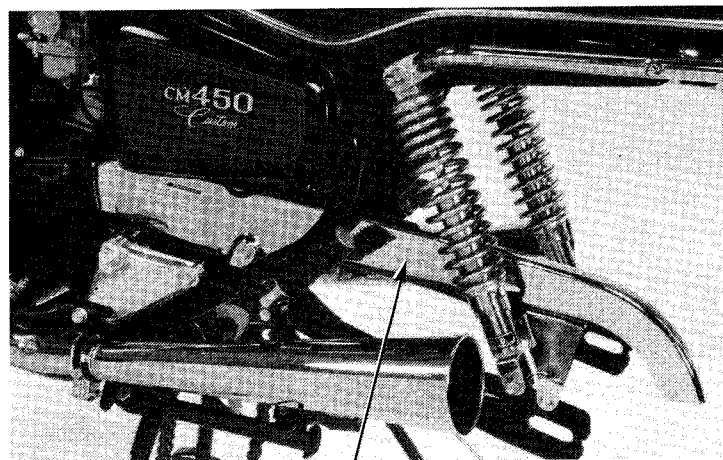


SWINGARM

REMOVAL

Remove the rear wheel (page 16–3).

Remove the drive chain cover.



DRIVE CHAIN COVER

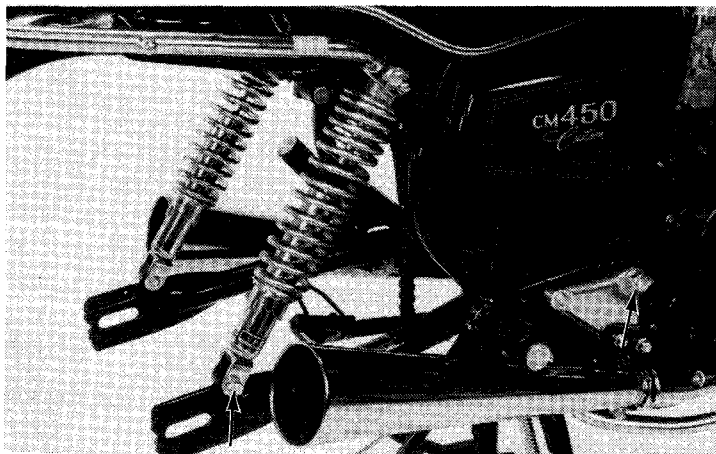


REAR WHEEL/BRAKE/SUSPENSION

Remove the shock absorber lower mounting bolts.

Remove the swingarm pivot bolt and the swingarm from the frame.

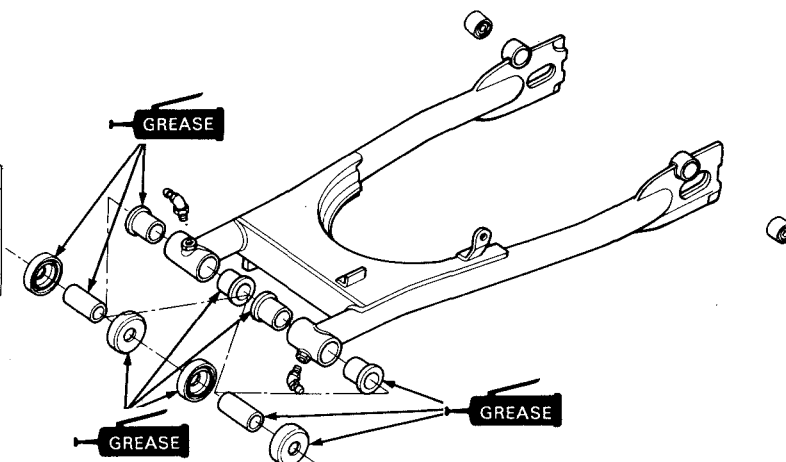
Remove the rear brake torque link from the swingarm.



DISASSEMBLY/ASSEMBLY

NOTE

- Drive the bushings into place through a pad making sure that they are not damaged.
- Lubricate the bushing with grease after installation.

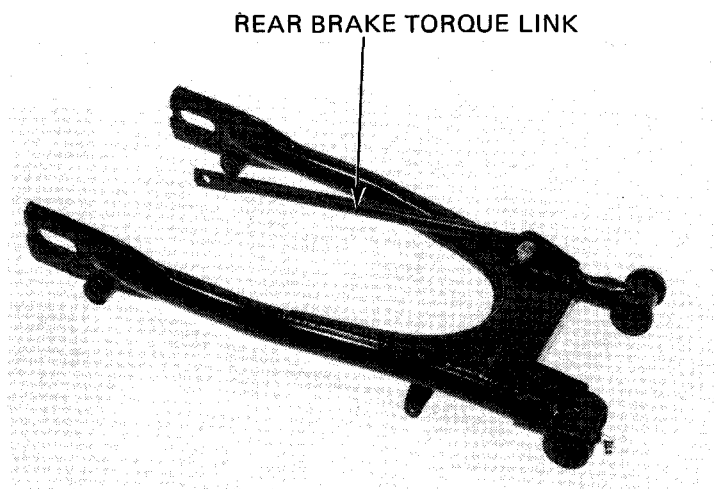


INSTALLATION

Install the rear brake torque link with the spring washer, plain washer and nut.

Tighten the nut and secure it with a new cotter pin.

**TORQUE: 18–25 N·m (1.8–2.5 kg·m,
13–18 ft·lb)**





Install the swingarm in the frame and install the pivot bolt and nut.

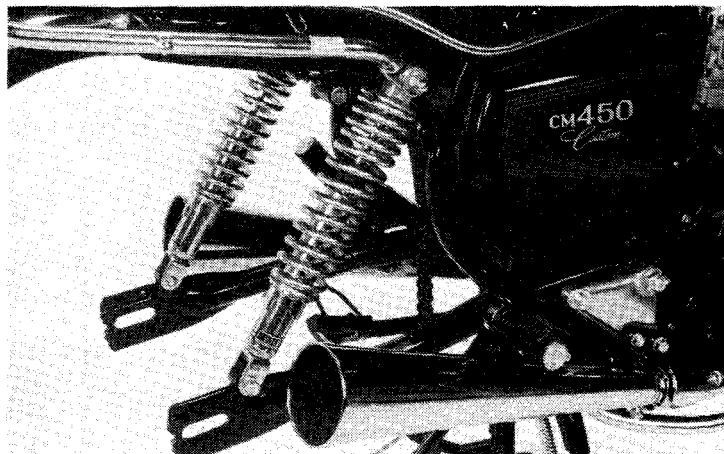
TORQUE: 55–70 N·m (5.5–7.0 kg-m, 40–51 ft-lb)

Install the shock absorber lower mounting bolts.

TORQUE: 30–40 N·m (3.0–4.0 kg-m, 22–29 ft-lb)

Install the drive chain cover.

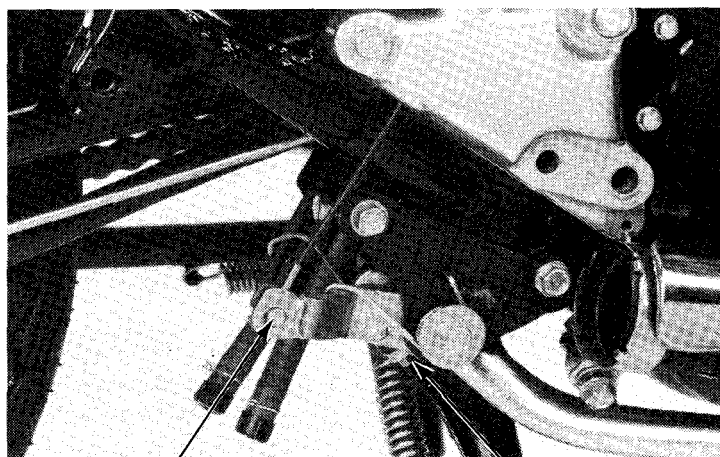
Install the rear wheel.



BRAKE PEDAL

REMOVAL/INSTALLATION

CM450A: Remove the parking brake return spring and disconnect the parking brake cable.



PARKING BRAKE CABLE

RETURN SPRING

Disconnect the brake rod from the brake arm.

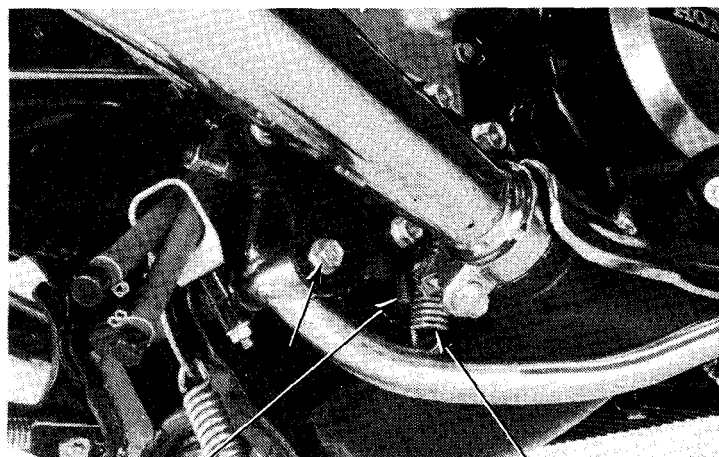
Remove the brake pedal bolt.

Unhook the return spring then remove the brake pedal with the brake rod.

Install in the reverse order of removal.

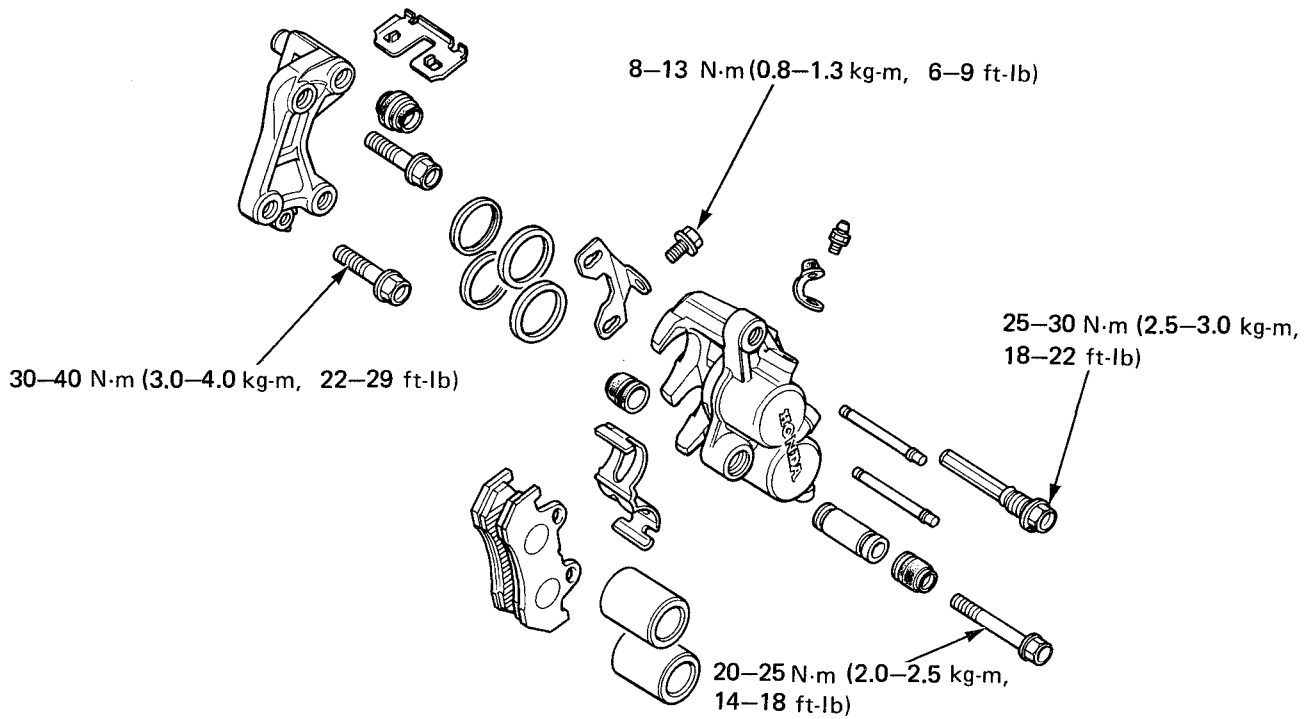
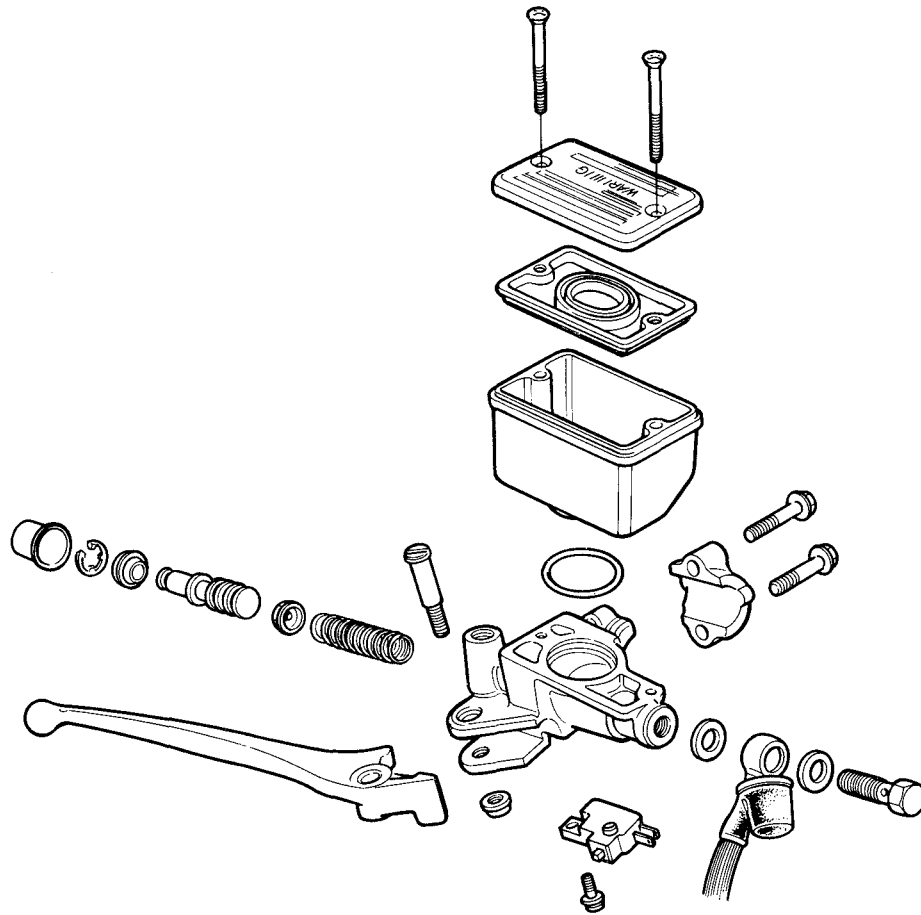
NOTE

Note the location of the brake light switch spring.



BRAKELIGHT SWITCH SPRING

RETURN SPRING





SERVICE INFORMATION	17-1
TROUBLESHOOTING	17-2
BRAKE FLUID REPLACEMENT/AIR BLEEDING	17-2
BRAKE PAD/DISC	17-3
FRONT MASTER CYLINDER	17-6
FRONT BRAKE CALIPER	17-8

SERVICE INFORMATION

GENERAL

- This section applies to the CB450T, CM450A/C. Not the CM450E.
- The front hydraulic brake can be removed without disconnecting the hydraulic system.
- Once hydraulic system has been opened, or brake feels spongy, the system must be bled.
- Do not allow foreign material to enter the system when filling the reservoirs.
- Avoid spilling brake fluid on painted surfaces or instrument lenses, as severe damage will result.
- Always check brake operation before riding the motorcycle.

SPECIFICATIONS

	STANDARDS	SERVICE LIMIT
Disc thickness	4.8 – 5.2 mm (0.19 – 0.20 in)	4.0 mm (0.16 in)
Disc runout	—————	0.30 mm (0.012 in)
Master cylinder I.D.	14.000–14.043 mm (0.5512–0.5592 in)	14.055 mm (0.5533 in)
Master piston O.D.	13.057–13.084 mm (0.5141–0.5151 in)	13.945 mm (0.5490 in)
Caliper piston O.D.	30.150–30.200 mm (1.1870–1.1890 in)	30.142 mm (1.1867 in)
Caliper cylinder I.D.	30.230–30.306 mm (1.1902–1.1931 in)	30.136 mm (1.1865 in)

TOOL

SPECIAL

Snap ring pliers

07914–3230001

TORQUE VALUES

Pad pin retainer	8–13 N·m (0.8–1.3 kg-m, 6–9 ft-lb)
Caliper bracket	30–40 N·m (3.0–4.0 kg-m, 22–29 ft-lb)
Caliper bolt	20–25 N·m (2.0–2.5 kg-m, 14–18 ft-lb)
Caliper pivot bolt	25–30 N·m (2.5–3.0 kg-m, 18–22 ft-lb)

TROUBLESHOOTING

Poor brake performance

1. Air bubbles in hydraulic system
2. Worn brake pads
3. Pads fouled or glazed
4. Hydraulic system leaking

BRAKE FLUID REPLACEMENT / AIR BLEEDING

Check the fluid level with the fluid reservoir parallel to the ground.

CAUTION:

- *Install the diaphragm on the reservoir when operating the brake lever/pedal. Failure to do so will allow brake fluid to squirt out of the reservoir during brake operation.*
- *Avoid spilling fluid on painted surfaces. Place a rag over the fuel tank whenever the system is serviced.*

BRAKE FLUID DRAINING

Connect a bleed hose to the bleeder valve.

Loosen the caliper bleeder valve and pump the brake lever.

Stop operating the lever when no fluid flows out of the bleeder valve.

WARNING

A contaminated brake disc or pad reduces stopping power. Discard contaminated pads and clean a contaminated disc with a high quality brake degreasing agent.

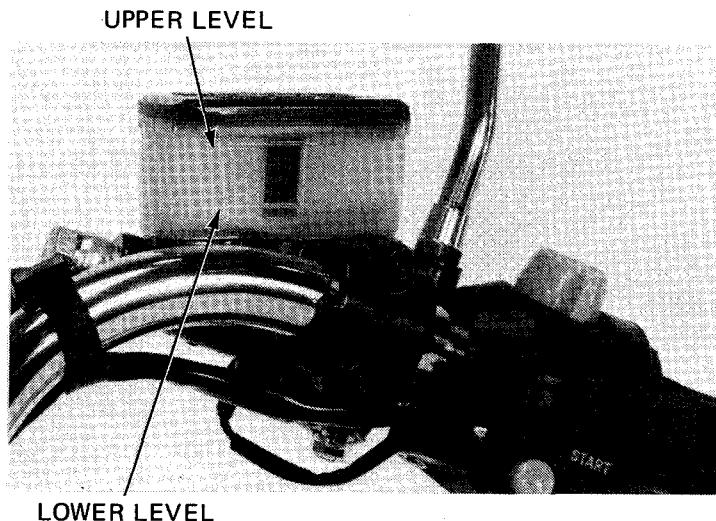
BRAKE FLUID FILLING

NOTE

Do not mix different types of fluid since they may not be compatible.

Close the bleeder valve, fill the reservoir, and install the diaphragm.

To prevent piston overtravel and brake fluid seepage, keep a 20 mm (3/4 in) space to the handlebar grip when bleeding the front brake system. Pump up the system pressure with the lever until there are no air bubbles in the fluid flowing out of the reservoir small hole and lever resistance is felt.





AIR BLEEDING

NOTE

- Check the fluid level often while bleeding the brake to prevent air from being pumped into the system.
- Use only **DOT 3 brake fluid** from a sealed container.
- Do not mix brake fluid types and never re-use the contaminated fluid which has been pumped out during brake bleeding, because this will impair the efficiency of the brake system.

Squeeze the brake lever, open the bleeder valve 1/2 turn, then close the valve.

NOTE

Do not release the brake lever until the bleeder valve has been closed again.

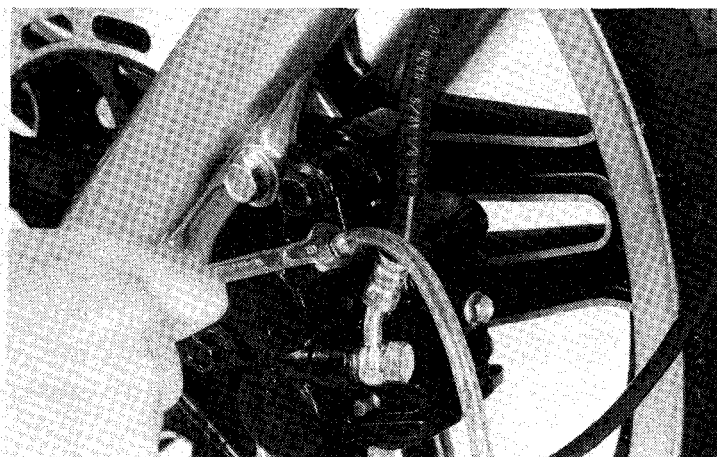
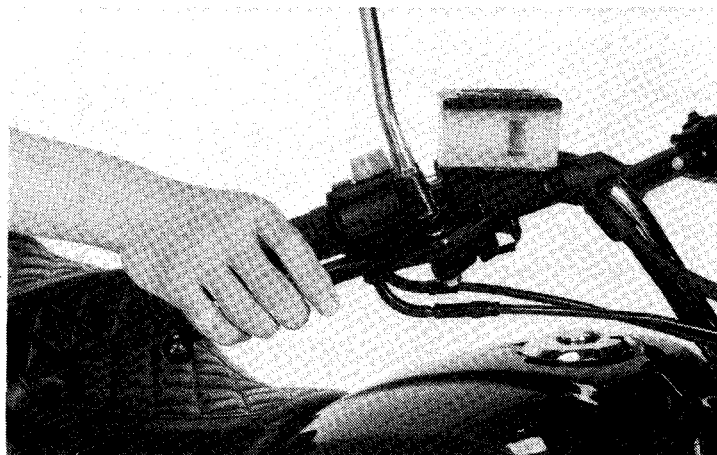
Release the brake lever slowly and wait several seconds after it reaches the end of its travel.

Repeat the above steps until bubbles cease to appear in the fluid at the end of the hose.

Fill the fluid reservoir to the upper level mark.

WARNING

A contaminated brake disc or pad reduces stopping power. Discard contaminated pads and clean a contaminated disc with a high quality brake degreasing agent.



BRAKE PAD/DISC

PAD REPLACEMENT

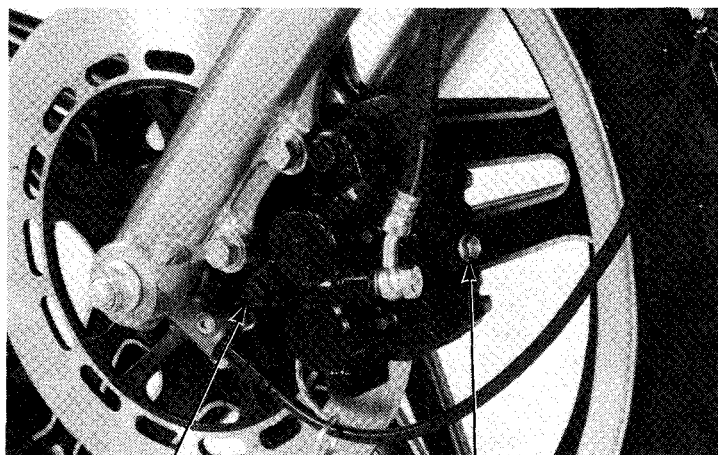
Replace the brake pads if the wear line on the top of each pad reaches the edge of the brake disc.

NOTE

Always replace the brake pads in pairs to assure even disc pressure.

Remove the pad pin retainer bolt and the caliper bolt.

Pivot the caliper up out of the way.

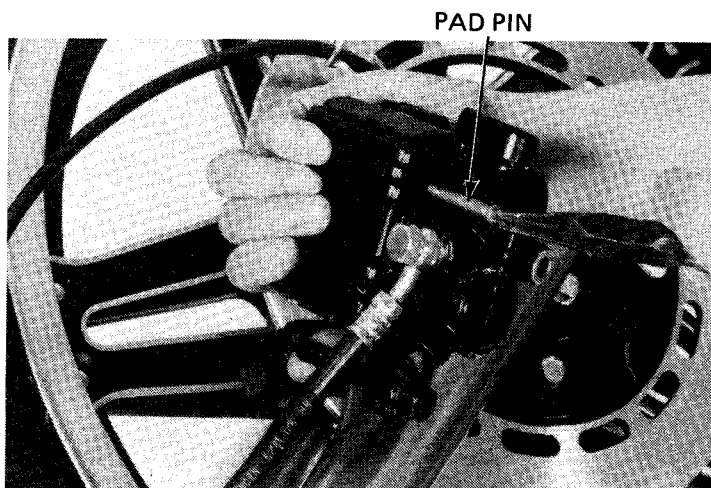


CALIPER BOLT

PAD PIN RETAINER BOLT

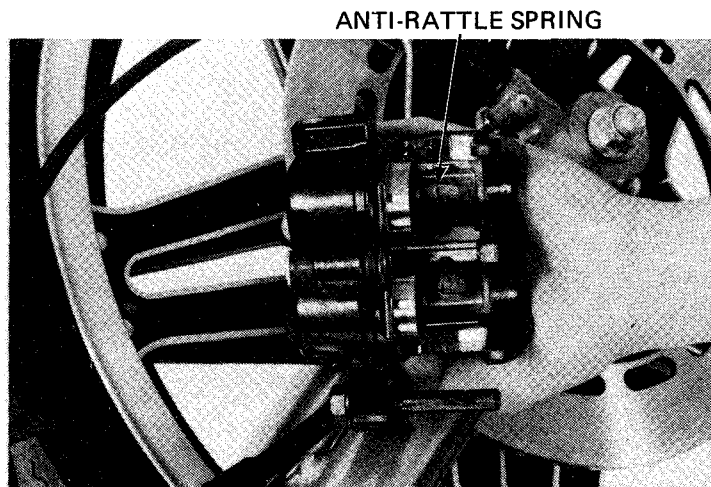
Remove the pad pin retainer and pull the pad pins out of the caliper.

Remove the brake pads.



Position the anti-rattle spring in the caliper as shown.

Push in the caliper pistons all the way.

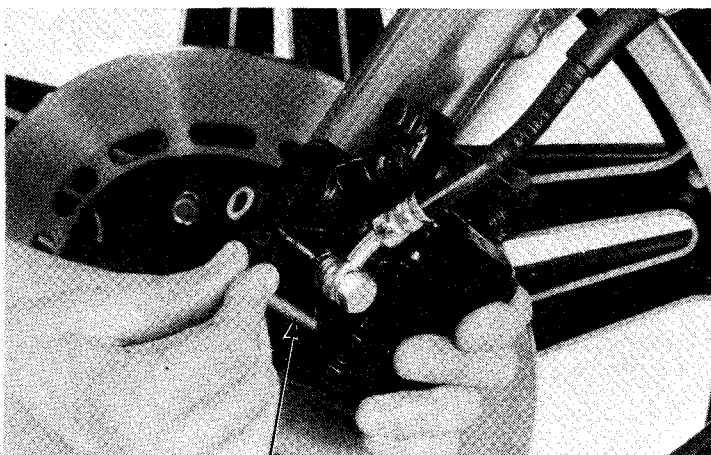


Install the new pads in the caliper.

Install the pad pins.

NOTE

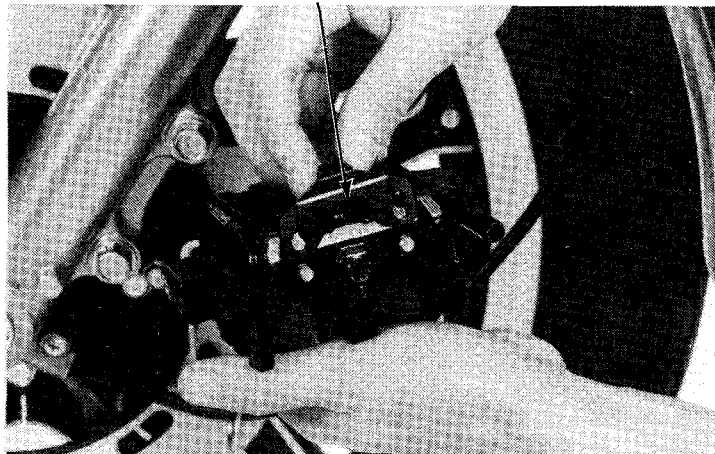
Install one pad pin first, then install the other pin by pushing the pads against the caliper to depress the anti-rattle spring.





Place the pad pin retainer over the pad pins. Push the retainer down to secure the pins.

PAD PIN RETAINER

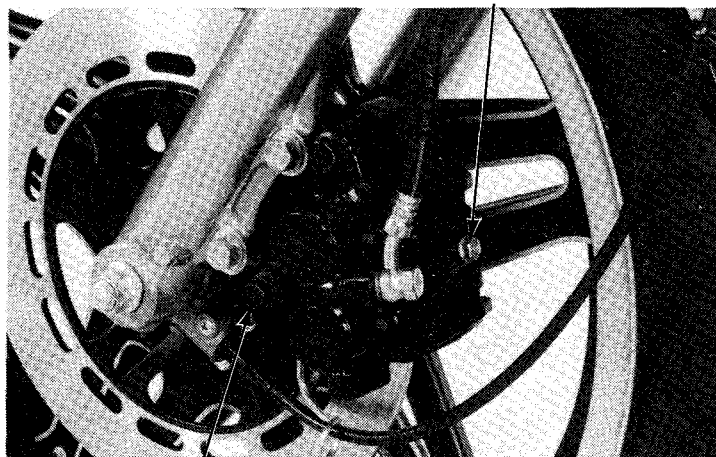


Install the pad pin retainer bolt.

Pivot the caliper down so the brake disc is positioned between the pads, making sure not to damage the pads.

Install the caliper bolt and tighten it.

RETAINER BOLT

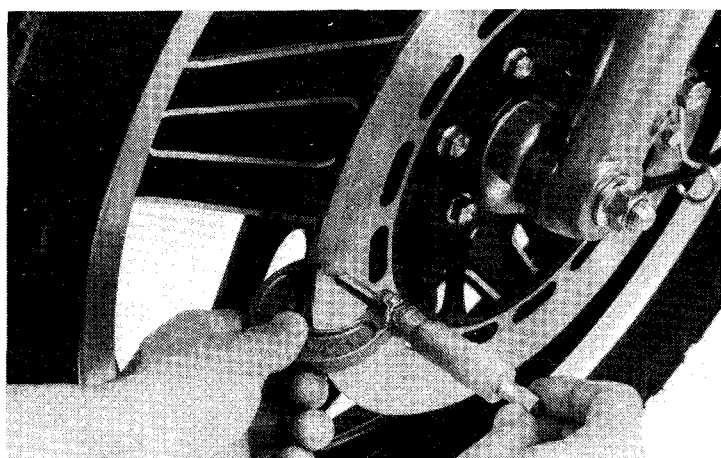


CALIPER BOLT

DISC INSPECTION

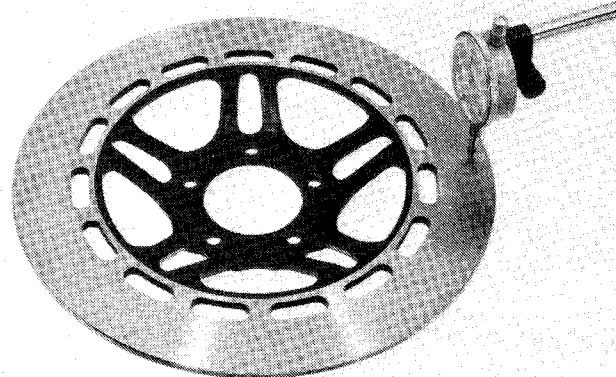
Measure the disc thickness.

SERVICE LIMIT: 4.0 mm (0.16 in)



Measure the disc warpage.

SERVICE LIMIT: 0.30 mm (0.012 in)



FRONT MASTER CYLINDER

DISASSEMBLY

Drain brake fluid from the hydraulic system.

Remove the brake lever and rear view mirror from the master cylinder. Disconnect the brake hose.

CAUTION:

- *Avoid spilling brake fluid on painted surfaces.*
- *Place a rag over the fuel tank whenever the brake system is serviced.*

NOTE

When removing the oil bolt, cover the end of the hose to prevent contamination and secure the hose.

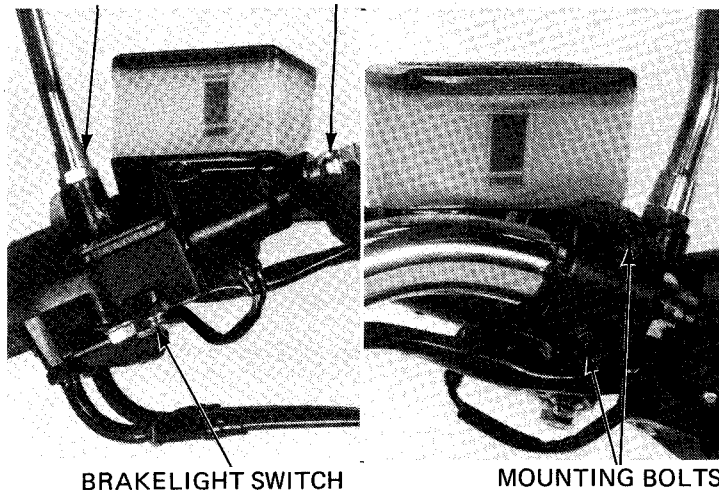
Remove the brakelight switch.

Remove the mounting bolts and remove the master cylinder.

Remove the boot.

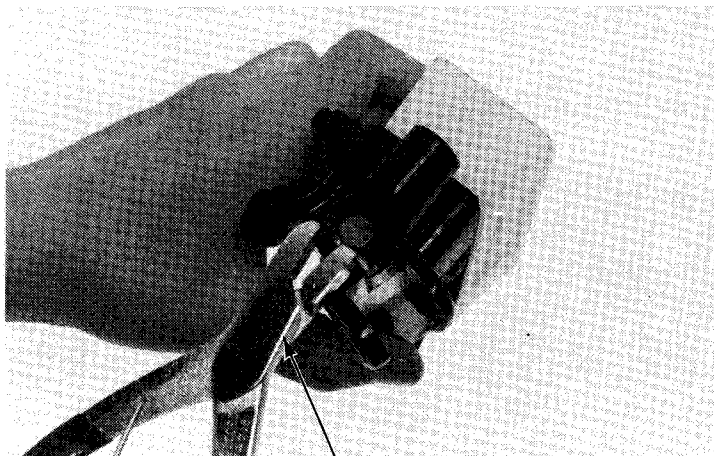
Remove the snap ring from the master cylinder body.

REAR VIEW MIRROR BRAKE HOSE



BRAKELIGHT SWITCH

MOUNTING BOLTS

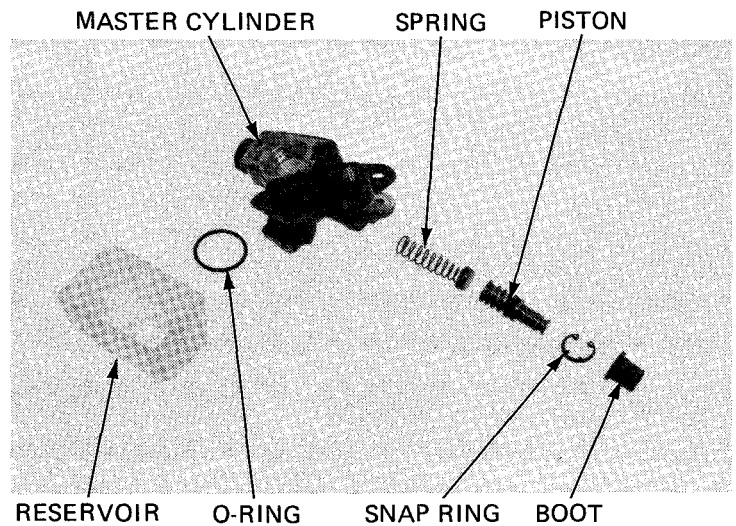


SANP RING PLIERS
07914-3230001



Remove the piston and spring.

Remove the reservoir and O-ring.

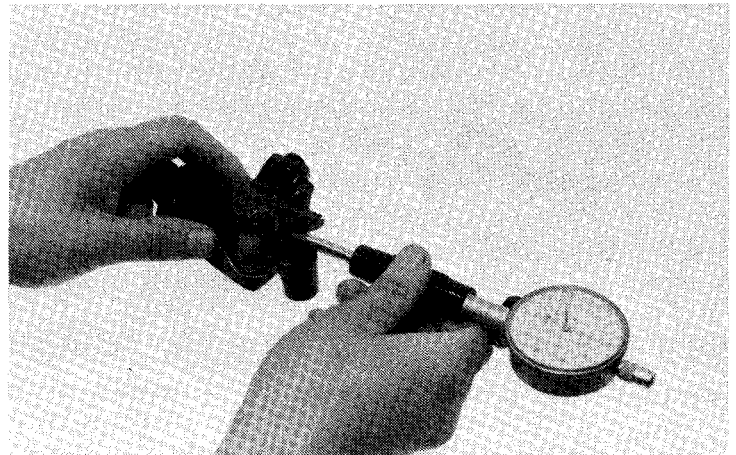


INSPECTION

Measure the master cylinder I.D.

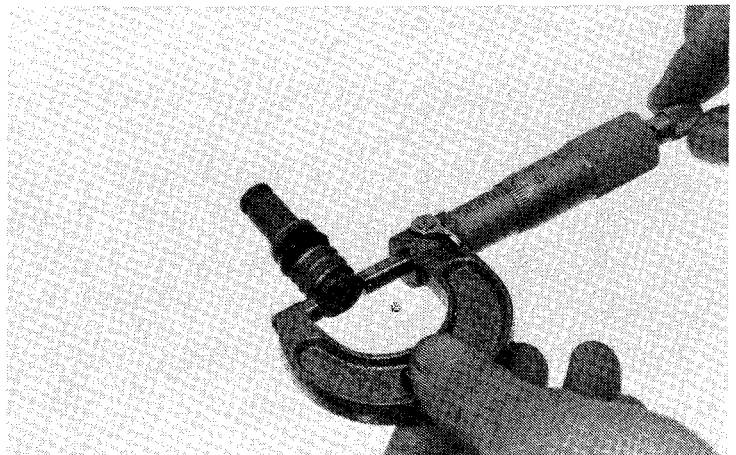
Check the cylinder for scores, scratches, nicks or other damage.

SERVICE LIMIT: 14.055 mm (0.5533 in)



Measure the master cylinder piston O.D.

SERVICE LIMIT: 13.945 mm (0.549 in)



**ASSEMBLY****CAUTION:**

Handle the master cylinder piston, cylinder and spring as a set.

Assemble the master cylinder. Coat all parts with clean brake fluid before assembly.

Install the spring and valve together.

Check the primary cup and secondary cup for damage before assembly.

Dip the piston cup in brake fluid before assembly.

CAUTION:

When installing the cups, do not allow the lips to turn inside out. Be certain the snap ring is seated firmly in the groove.

Install the boot.

Install the reservoir on the master cylinder making sure that the O-ring is in good condition.

Place the master cylinder on the handlebar, install the holder with the "UP" mark up and install the mounting bolts.

Align the projection of the holder with the punch mark on the handlebar and tighten the top bolt first.

Install the oil hose with the bolt and its two sealing washers.

Install the brakelight switch.

Install the brake lever.

Install the rear view mirror.

Fill the reservoir to the upper level and bleed the brake system according to page 17-3.

FRONT BRAKE CALIPER**DISASSEMBLY**

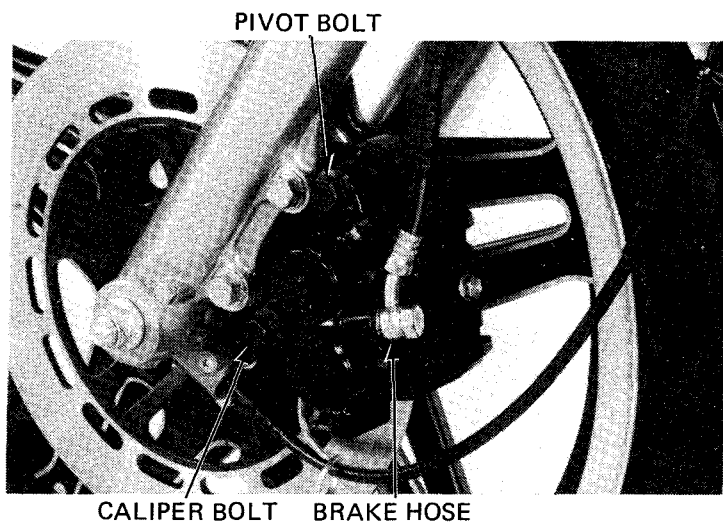
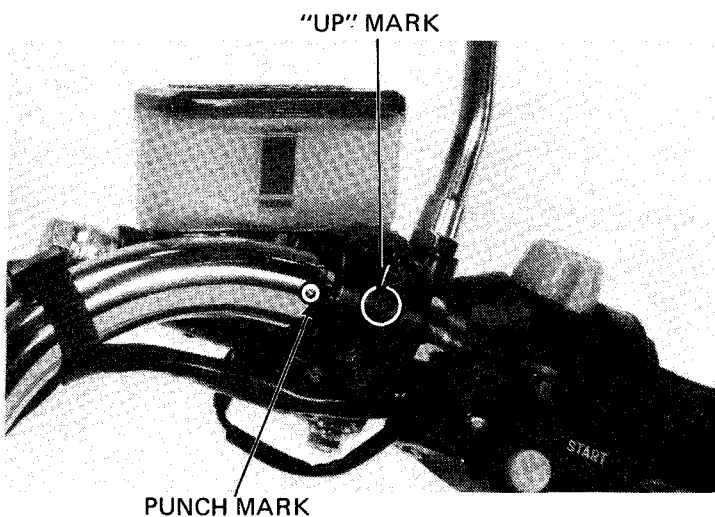
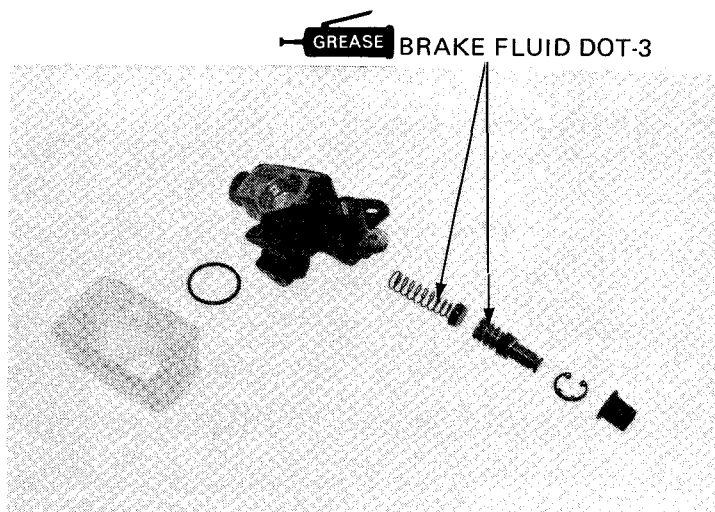
Place a clean container under the caliper and disconnect the brake hose from the caliper.

CAUTION:

Avoid spilling brake fluid on painted surfaces.

Remove the caliper bracket bolt and caliper pivot bolt.

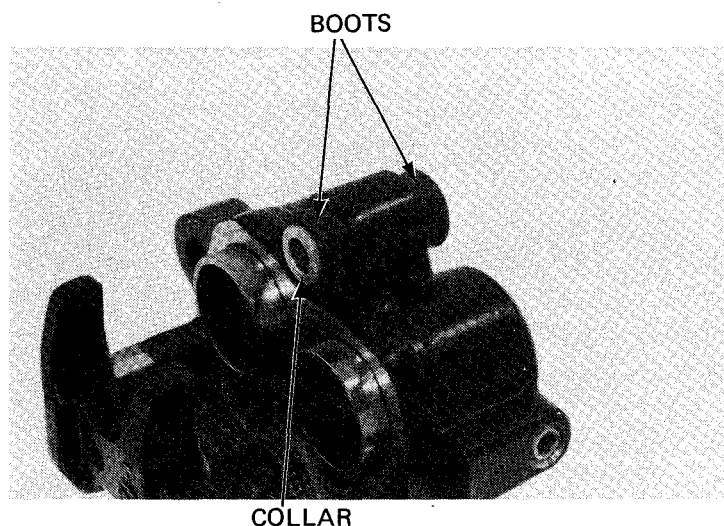
Remove the caliper.





Remove the pads and anti-rattle spring.

Remove the caliper pivot collar and boots.



Position the caliper with the piston down and apply small squirts of air pressure to the fluid inlet.

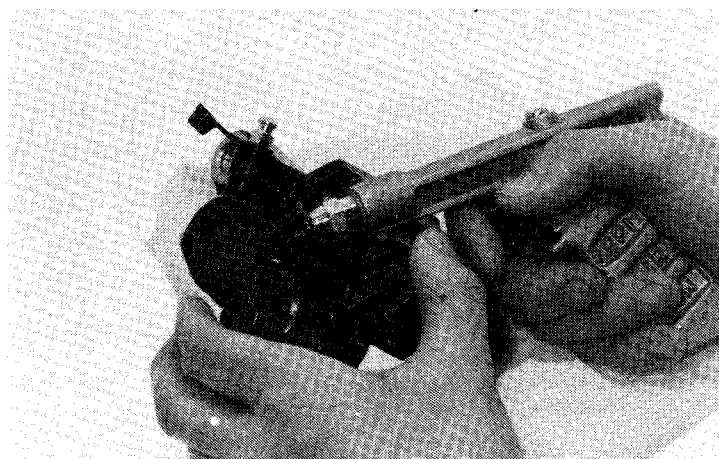
WARNING

Do not use high pressure air or bring the nozzle too close to the inlet.

NOTE

Place a shop towel over the pistons to prevent the pistons from becoming projectiles.

Examine the pistons and cylinders for scoring, scratches or other damage and replace if necessary.

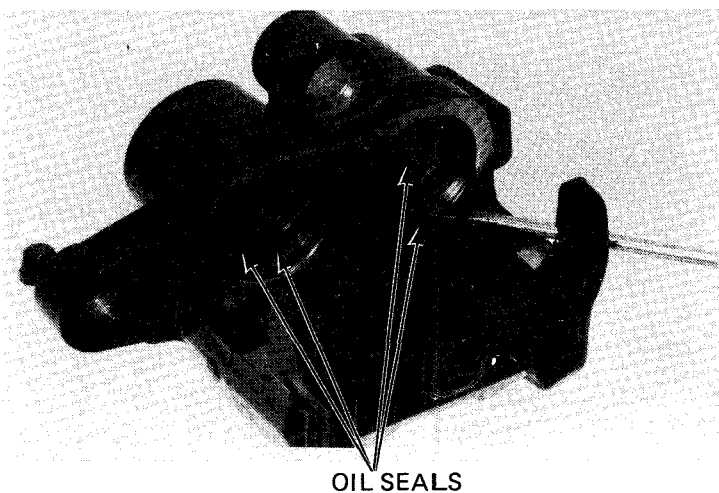


Push the oil seals in and then lift them out.

Clean the oil seal grooves with brake fluid.

CAUTION:

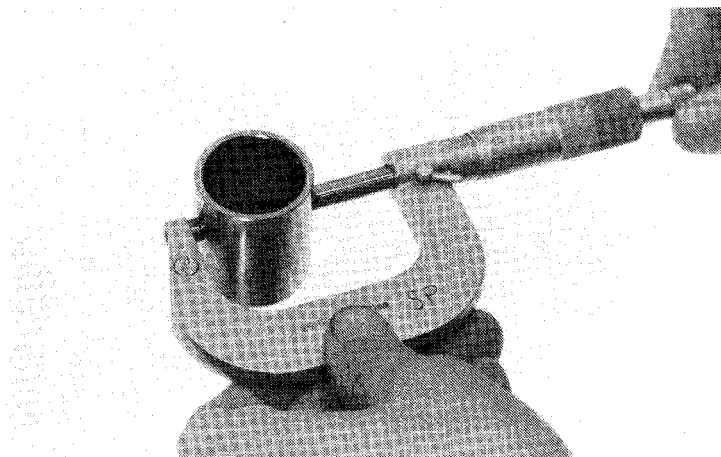
Do not damage the piston sliding surfaces.



CALIPER PISTON O.D. INSPECTION

Check the piston for scoring, scratches or other faults. Measure the piston diameter.

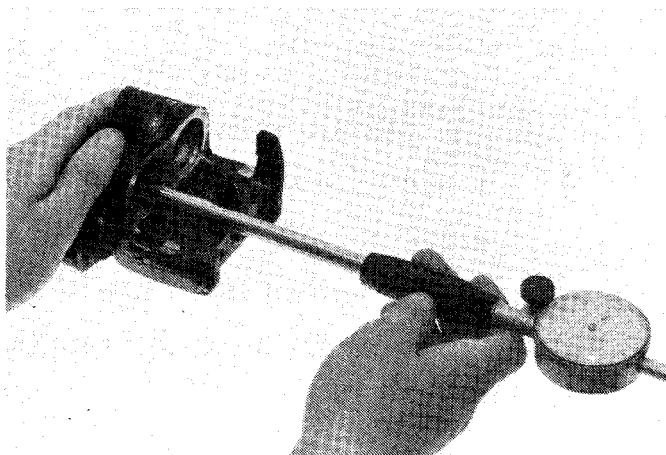
SERVICE LIMIT: 30.14 mm (1.187 in)



CALIPER CYLINDER I.D. INSPECTION

Check the caliper cylinder for scoring, scratches or other faults. Measure the caliper cylinder bore.

SERVICE LIMIT: 30.29 mm (1.193 in)



ASSEMBLY

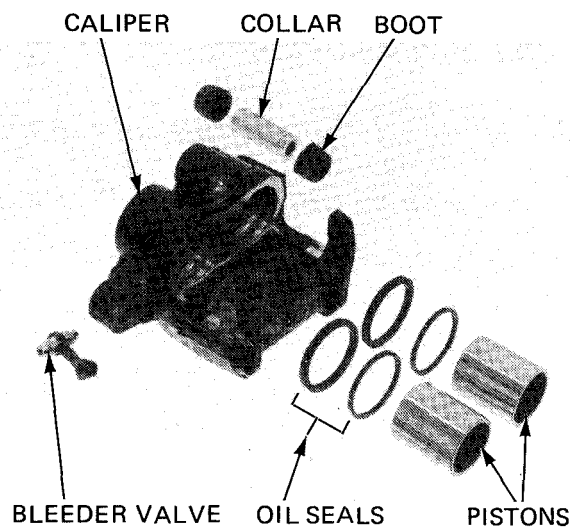
The oil seals must be replaced with new ones whenever they are removed.

Coat the oil seals with silicone grease or brake fluid and install them with the smaller diameter facing in.

Install the pistons with the dished ends toward the pads.

Install the boots and collar making sure that the boots are correctly seated in the collar and caliper grooves.

Install the anti-rattle spring and pads.





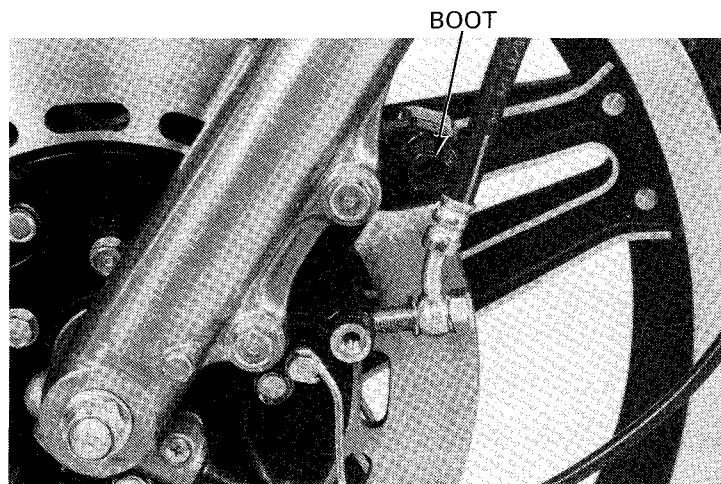
Inspect the condition of the caliper pivot bolt boot.

Apply silicon grease or brake fluid to the caliper pivot bolt.

Install the caliper assembly over the brake disc so the disc is positioned between the pads.

CAUTION :

Be careful not to damage the pads.



Install the caliper pivot bolt.

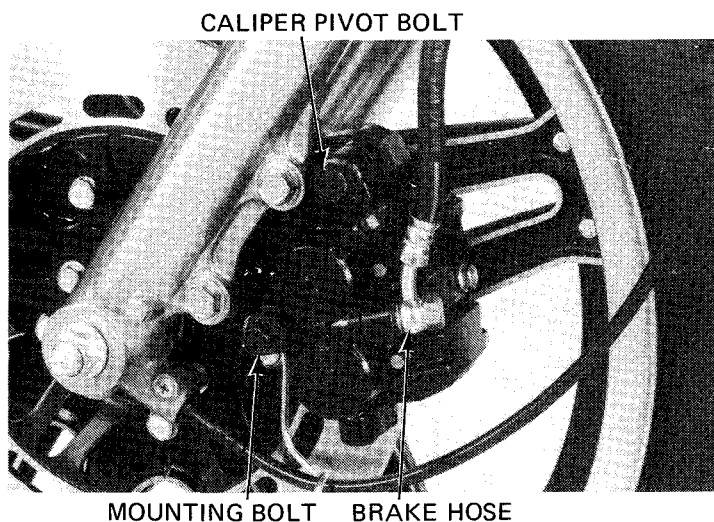
TORQUE: 25–30 N·m (2.5–3.0 kg-m,
18–22 ft-lb)

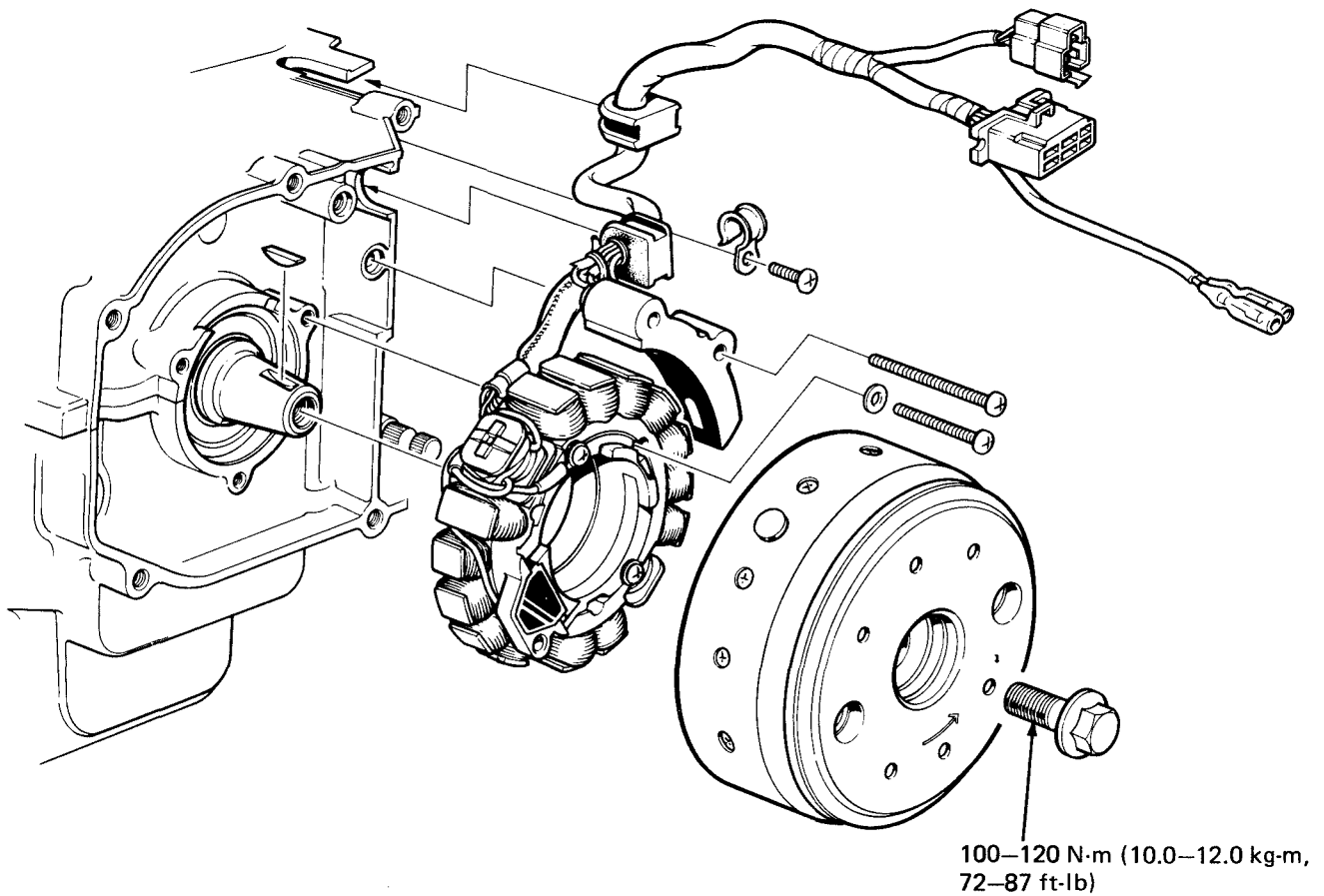
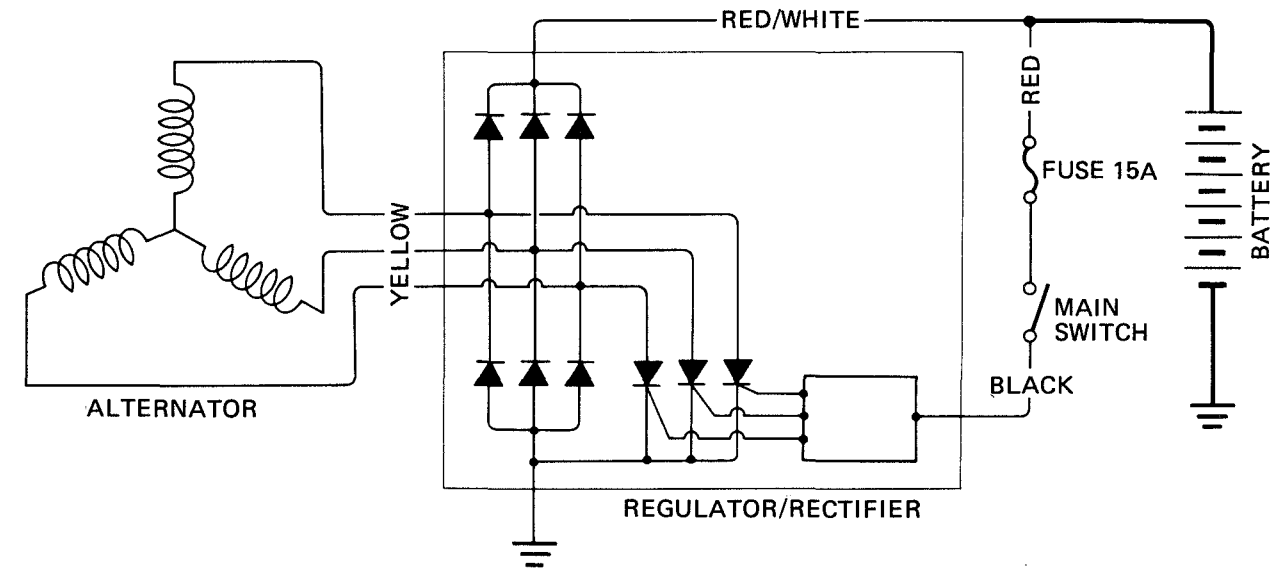
Install the caliper mounting bolt.

TORQUE: 20–25 N·m (2.0–2.5 kg-m,
14–18 ft-lb)

Connect the brake hose.

Fill the brake fluid reservoir and bleed the front brake system (page 17–3).







SERVICE INFORMATION	18-1
TROUBLESHOOTING	18-2
BATTERY	18-3
CHARGING SYSTEM	18-4
ALTERNATOR REMOVAL/INSTALLATION	18-5
VOLTAGE REGULATOR/RECTIFIER	18-7

SERVICE INFORMATION

GENERAL

- Battery fluid level should be checked regularly. Fill with distilled water when necessary.
- Quick charge a battery, only in an emergency. Slow-charging is preferred.
- Remove the battery from the motorcycle for charging. If the battery must be charged on the motorcycle, disconnect the battery cables.

WARNING

Do not smoke, and keep flames away from a charging battery. The gas produced by a battery will explode if a flame or spark is brought near.

- All charging system components can be tested on the motorcycle.

SPECIFICATIONS

Battery	Capacity	12V, 12 ampere-hours
	Specific gravity	1.280/20°C (68°F)
	Charging rate	1.2 amperes maximum
AC generator	Capacity	NIGHT: 5 amperes minimum/5,000 rpm (14.5 volts)
Voltage regulator		Transistorized non-adjustable regulator

18

TOOLS

COMMON

Universal holder 07725-0030000
 Rotor puller 07733-0020001

TORQUE VALUE

Alternator rotor 100-120 N·m (10.0-12.0 kg-m, 72-87 ft-lb)



TROUBLESHOOTING

No power — key turned on:

1. Dead battery
 - Low fluid level
 - Low specific gravity
 - Charging system failure
2. Disconnected battery cable
3. Main fuse burned out
4. Faulty ignition switch

Low power — key turned on:

1. Weak battery
 - Low fluid level
 - Low specific gravity
 - Charging system failure
2. Loose battery connection

Low power — engine running:

1. Battery undercharged
 - Low fluid level
 - One or more dead cells
2. Charging system failure

Intermittent power:

1. Loose battery connection
2. Loose charging system connection
3. Loose starting system connection
4. Loose connection or short circuit in ignition system
5. Loose connection or short circuit in lighting system

Charging system failure:

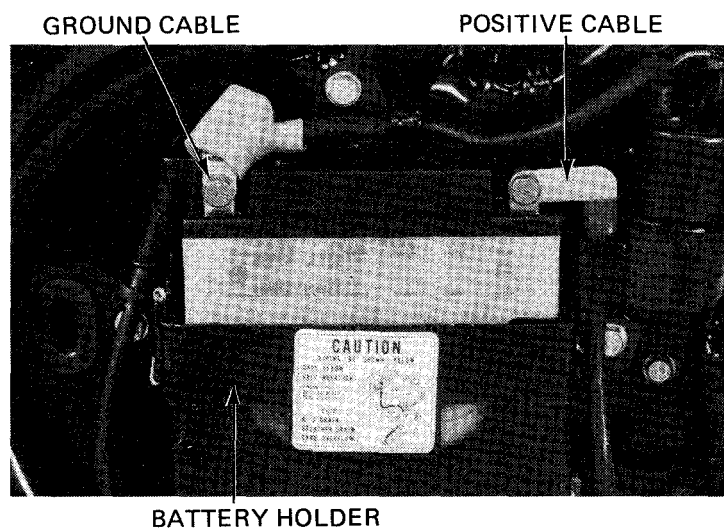
1. Loose, broken, or shorted wire or connection
2. Faulty voltage regulator/rectifier
3. Faulty alternator



BATTERY

REMOVAL

- Remove the right side cover.
- Disconnect the ground cable at the battery.
- Disconnect the positive cable at the battery.
- Remove the battery holder.
- Remove the battery.



TESTING SPECIFIC GRAVITY

Test each cell with a hydrometer.

SPECIFIC GRAVITY: 1.270–1.290
(20°C, 68°F)

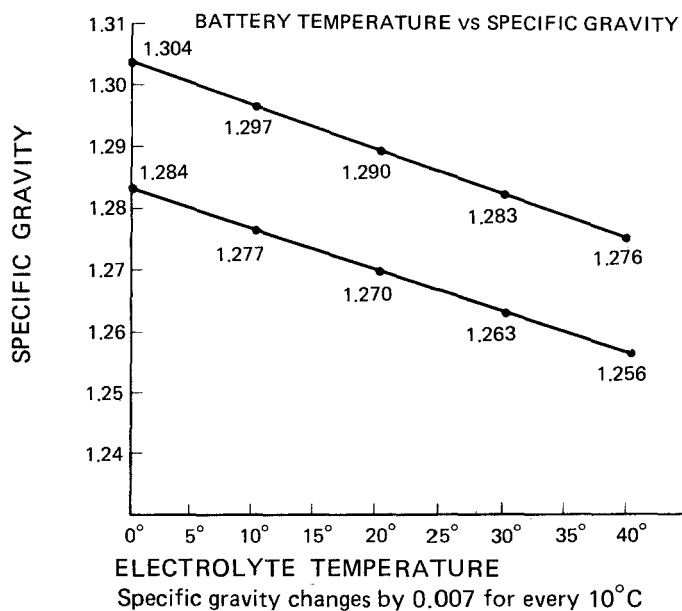
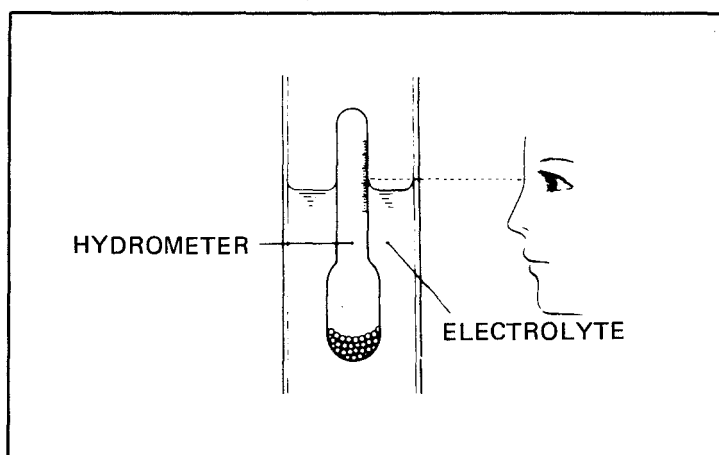
1.270–1.290	Fully charged
Below 1.260	Undercharged

NOTE

- The battery must be recharged if the specific gravity is below 1.230.
- The specific gravity varies with the temperature as shown in the accompanying table.
- Replace the battery if sulfation is evident or if the space below the cell plates is filled with sediment.

WARNING

*The battery contains sulfuric acid. Avoid contact with skin, eyes, or clothing.
Antidote: Flush with water and get prompt medical attention.*





CHARGING

Connect the charger positive (+) cable to the battery positive (+) terminal.

Connect the charger negative (–) cable to the battery negative (–) terminal.

Charging current: 1.4 amperes max.

Charging: Charge the battery until specific gravity is 1.270–1.290 at 20°C (68°F)

WARNING

- Before charging a battery, remove the cap from each cell.
- Keep flames and sparks away from a charging battery.
- Turn power ON/OFF at the charger, not at the battery terminals.
- Discontinue charging if the electrolyte temperature exceeds 45°C (113°F).

CAUTION:

Quick-charging should only be done in an emergency; slow-charging is preferred.

CAUTION:

Route the breather tube as shown on the battery caution label.

After installing the battery, coat the terminals with clean grease.

CHARGING SYSTEM

Current Test

NOTE

Be sure the battery is in good condition before performing this test.

Warm up the engine.

Remove the right side cover.

Turn the headlight high beam on.

Run the engine above 2,000 rpm.

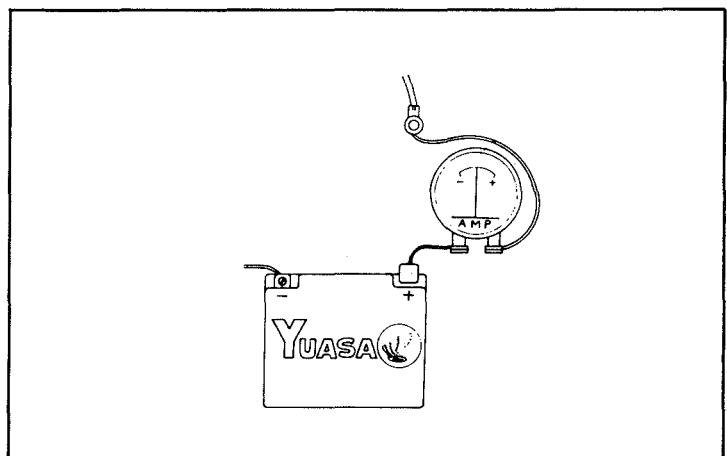
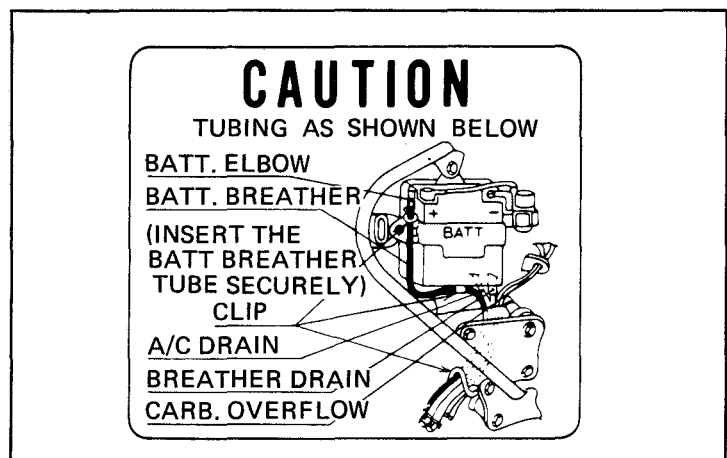
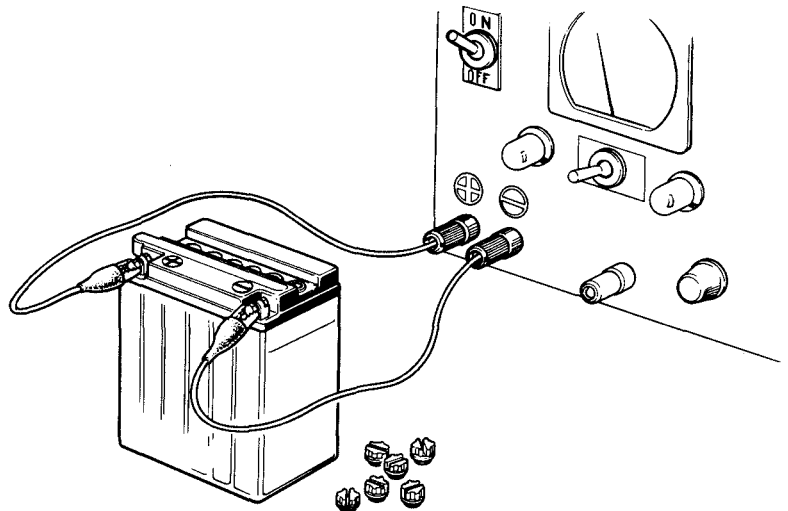
Disconnect the battery positive cable at the battery and connect an ammeter between the battery cable and the terminal.

Allow the engine to idle.

Slowly increase engine speed.

Charging amperage should begin at 1,200 rpm and should be a minimum of 5 amperes at 5,000 rpm.

Check the stator and then the regulator/rectifier, if charging specifications are not met.





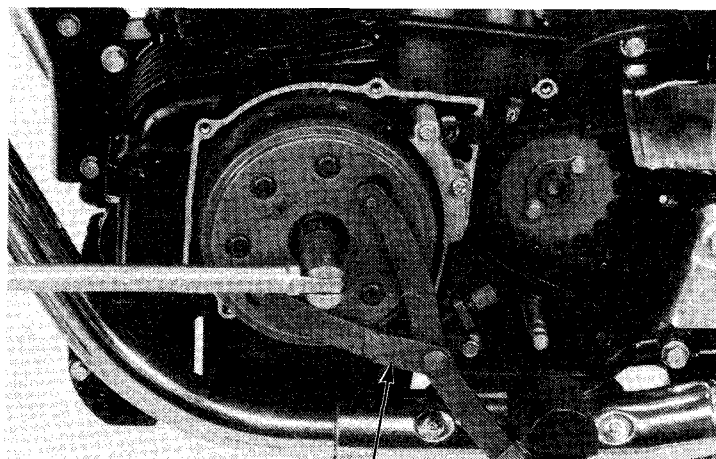
ALTERNATOR REMOVAL/ INSTALLATION

REMOVAL

Remove the left crankcase cover.

Hold the alternator rotor with a universal holder to loosen the rotor bolt.

Remove the rotor bolt.

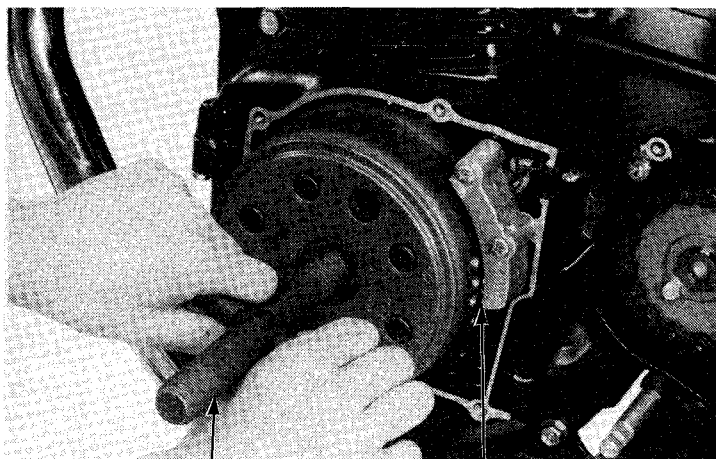


UNIVERSAL HOLDER

Remove the rotor.

CAUTION:

Be careful not to damage the pickup on the outside of the rotor.

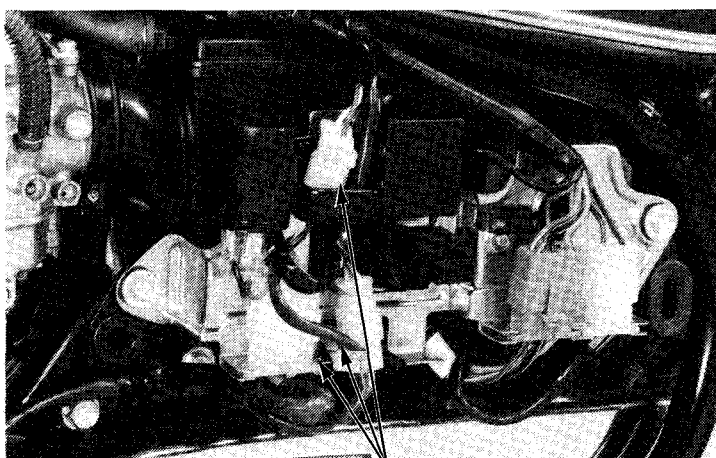


ROTOR PULLER

PICKUP

Remove the frame left side cover.

Disconnect the alternator couplers.



ALTERNATOR COUPLERS

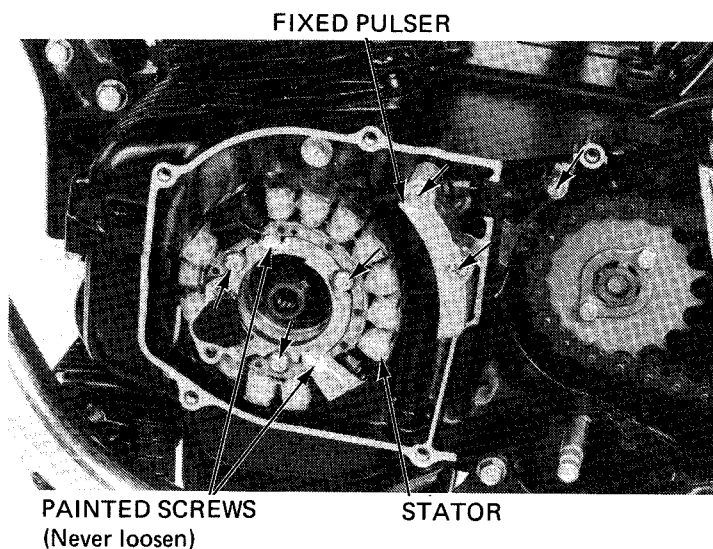
Remove the stator and fixed pulser.

CAUTION:

Never loosen the two painted screws at the stator to prevent the ignition timing from becoming out of time.

NOTE

The stator can be checked in the motorcycle. See inspection below.



Install the stator and fixed pulser.

NOTE

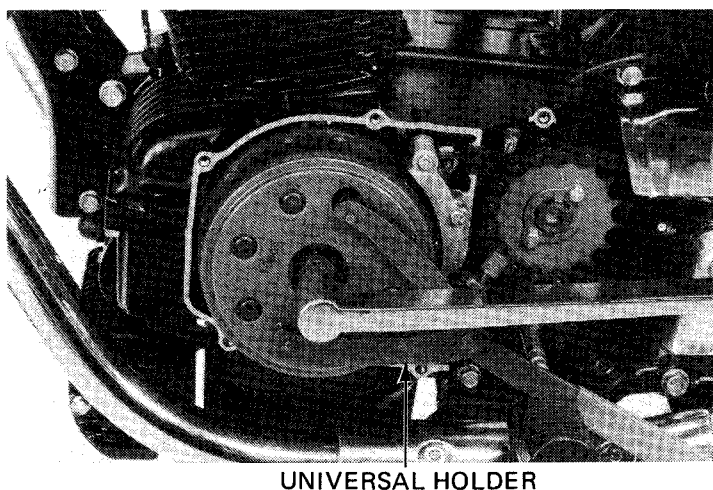
- Be sure the wires are routed properly. Secure with the cable clamp as shown.
- Check that the wires do not interfere with the alternator rotor.

Connect the couplers and install the left side cover.

Install the alternator rotor.

TORQUE: 100–120 N·m (10.0–12.0 kg-m, 72–87 ft-lb)

Install the left crankcase cover.



STATOR COIL INSPECTION

Check the yellow leads to the alternator for continuity with each other.

Replace the stator if any yellow lead is not continuous with the other, or if any lead has continuity to ground.





VOLTAGE REGULATOR/RECTIFIER

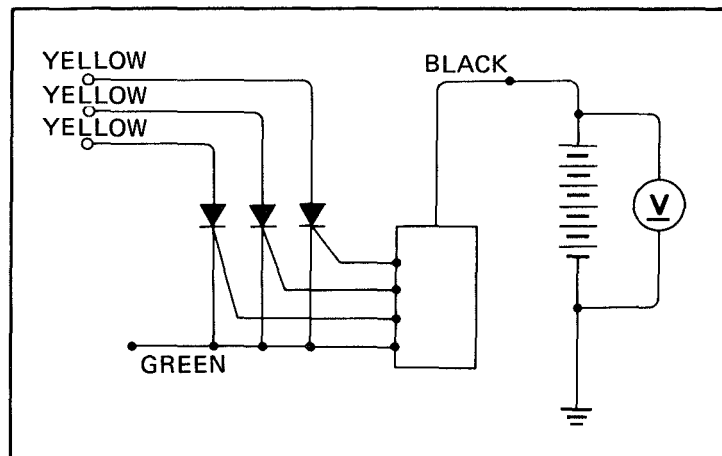
VOLTAGE REGULATOR TEST

Test with a voltmeter;

Connect a voltmeter across the battery.

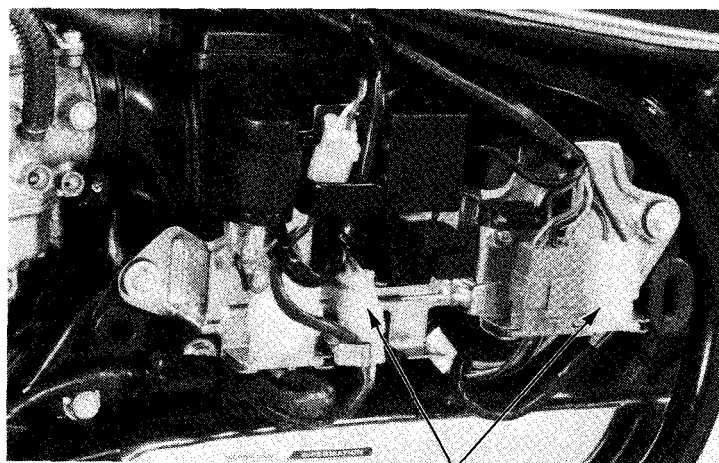
Check regulator performance with the engine running.

The regulator must divert current to ground when battery voltage reaches 14.0–15.0 V.



RECTIFIER TEST

Check the resistance between the regulator/rectifier leads at the couplers with an ohmmeter.



REGULATOR/RECTIFIER COUPLERS

RESISTANCE IN NORMAL DIRECTION:

Green and any yellow: 5–40 Ω

Red/white and any yellow: 5–40 Ω

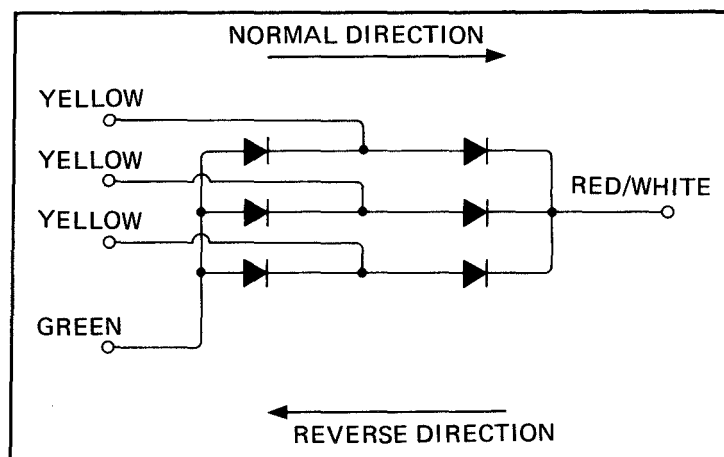
RESISTANCE IN REVERSE DIRECTION:

Red/white and any yellow: 2000 Ω min.

Green and any yellow: 2000 Ω min.

NOTE

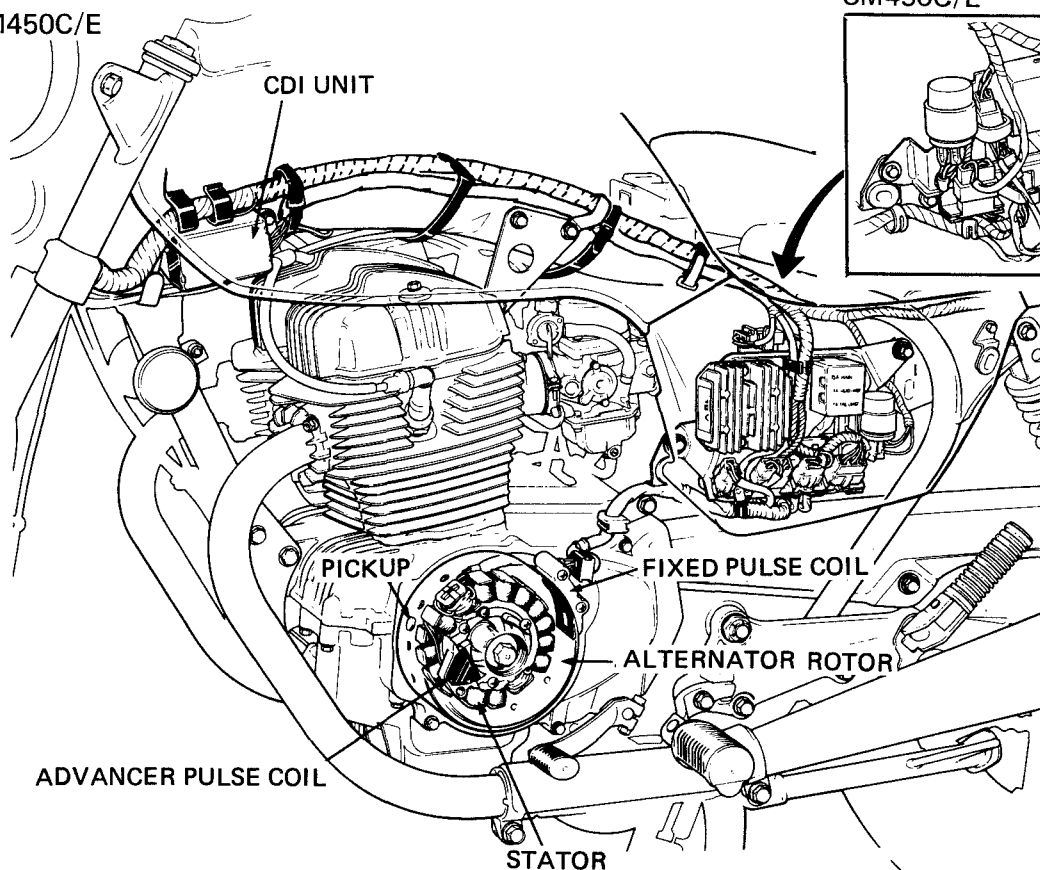
The test results shown are for a positive ground ohmmeter and opposite results will be obtained when a negative ground ohmmeter is used.



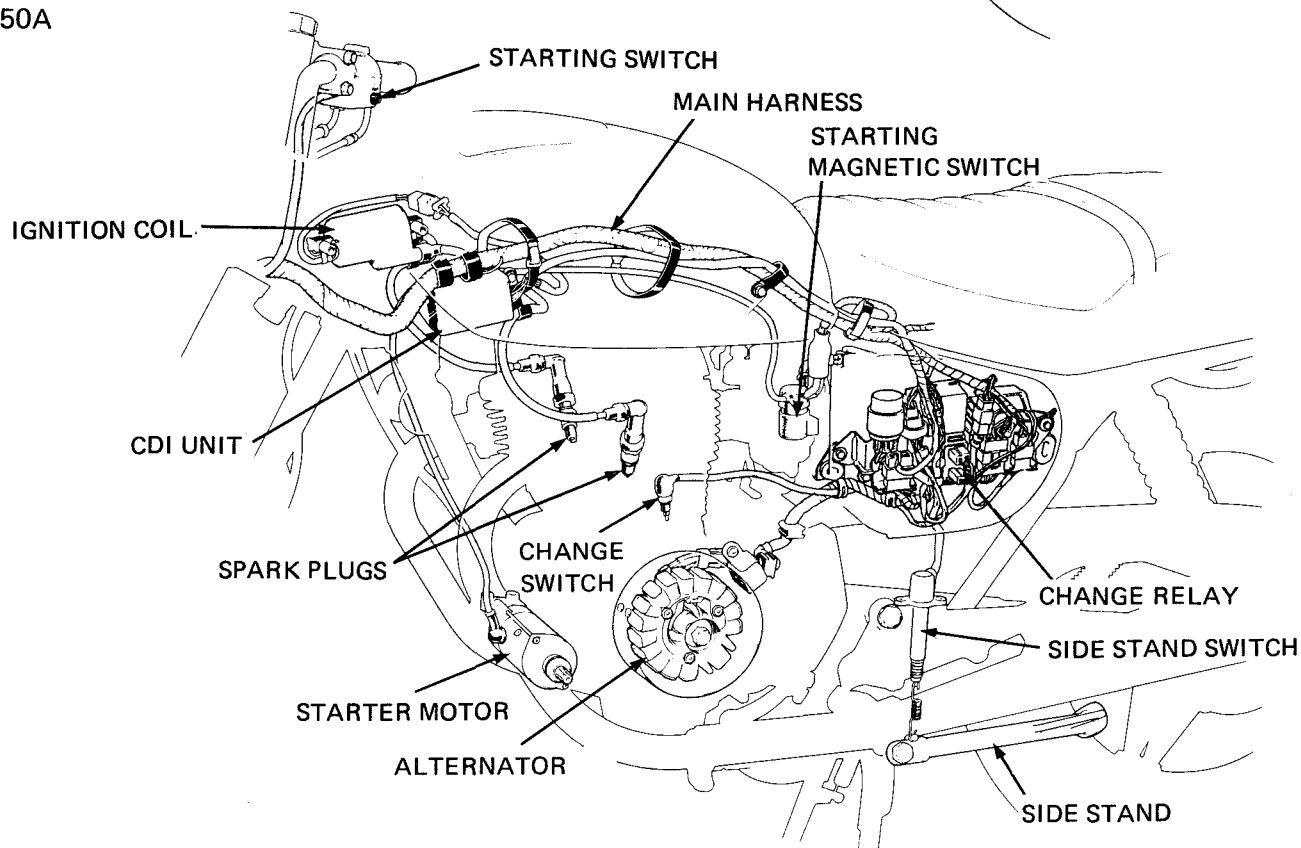


IGNITION SYSTEM

CB450T, CM450C/E



CM450A





SERVICE INFORMATION	19-1
TROUBLESHOOTING	19-2
IGNITION COIL	19-3
CDI UNIT	19-3
ALTERNATOR	19-5
SIDE STAND SWITCH (CM450A ONLY)	19-5

SERVICE INFORMATION

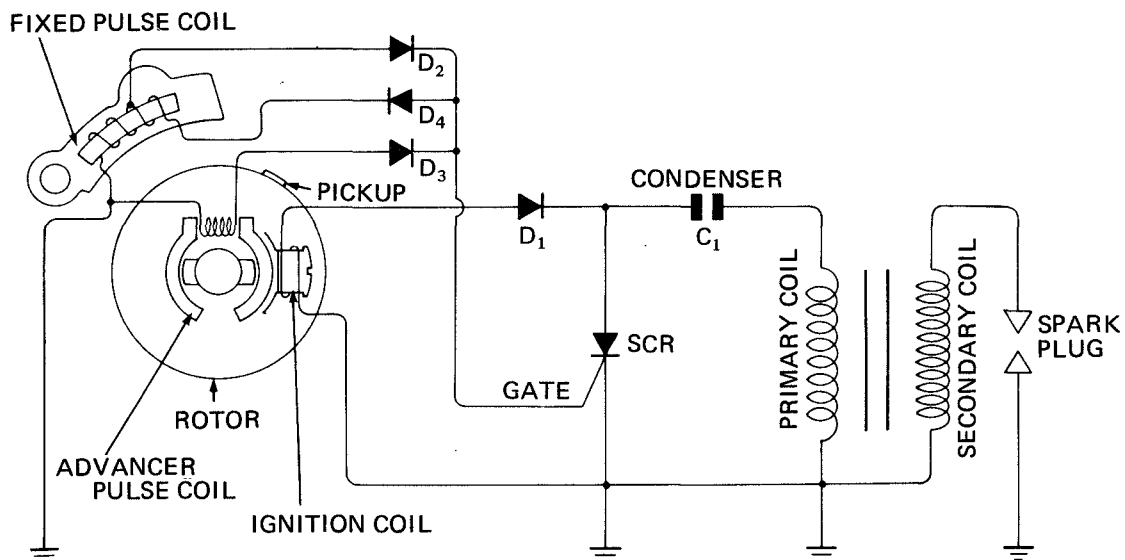
GENERAL

- Ignition timing cannot be adjusted since the CDI (Capacitive Discharge Ignition) unit is non-adjustable.
- If ignition timing is incorrect, check the CDI unit and alternator and replace any faulty part.
- For spark plug information, see page 3-11.
- For side stand switch inspection on CM450A, see page 3-25.

SPECIFICATIONS

Spark Plug			ND X24ESR—U, NGK DR8ES—L
Spark Plug Gap			0.6—0.7 mm (0.024—0.028 in)
Ignition timing	Initial	“FN” mark	7.5°
		“F” mark	15°
	Full advance	CM450C,E, CB450T	43°
		CM450A	48°
	Engine speed (initial)	CM450C,E, CB450T	1,200 rpm
		CM450A	1,250 rpm
	Engine speed (full advance)		4,500—5,350 rpm

CB450T, CM450C/E



The diagram illustrates the electrical system of a motorcycle, divided into two main functional areas: the starting system and the ignition system.

Starting System:

- Battery:** The power source for the system.
- FUSE:** Protects the circuit from overcurrent.
- IGNITION SWITCH:** Controls the flow of current to the starter relay and the ignition coil.
- STARTER RELAY:** A solenoid that engages the starter motor.
- STARTER BUTTON:** The button used to start the engine.
- NEUTRAL INDICATOR:** A light that indicates when the motorcycle is in neutral.
- CHANGE SWITCH:** A switch that controls the range indicators.
- "1" RANGE INDICATOR:** A light that indicates the first gear range.
- "2" RANGE INDICATOR:** A light that indicates the second gear range.
- STARTING MOTOR:** The motor that cranks the engine.

Ignition System:

- CDI UNIT:** A Capacitor Discharge Ignition unit that provides high-voltage pulses to the ignition coil.
- CONDENSER CHANGING COIL:** A coil that provides a variable inductance for the CDI unit.
- FIXED PULSE COIL:** A coil that provides a fixed pulse to the CDI unit.
- SCR 1 and SCR 2:** Silicon Controlled Rectifiers that control the timing of the spark.
- IGNITION COIL:** A coil that generates the high-voltage spark.
- SPARK PLUG:** The component that creates the spark to ignite the fuel.
- SIDE STAND SWITCH:** A switch that controls the side stand.

The diagram shows the electrical connections between these components, including the flow of current from the battery through the starter relay and motor, and the generation of spark by the ignition system.

1. Engine stop switch OFF
2. No spark at plugs
3. Faulty CDI unit
4. Alternator faulty
5. Poorly connected, broken or shorted wires between spark plugs and AC generator, CDI unit and ignition coil

1. Improper wiring connection between alternator, change switch, change relay and CDI unit
2. Improper ignition timing



IGNITION COIL

REMOVAL

Remove the fuel tank.

Disconnect the wire leads.

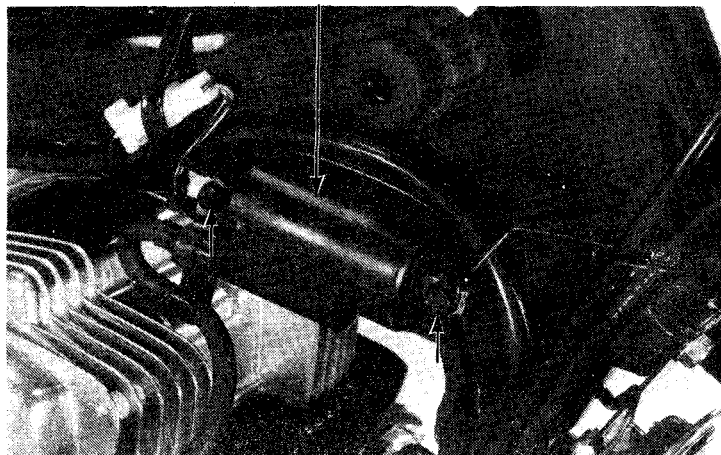
Remove the coil attaching bolts and coil.

INSPECTION

Measure the coil resistance.

PRIMARY: $0.55 \pm 0.055 \Omega$
SECONDARY: $8 \pm 0.8 \text{ k}\Omega$

IGNITION COIL



CDI UNIT

INSPECTION

Disconnect the wiring. Set the tester at $\text{xk}\Omega$ or $\text{x}100\Omega$ and check continuity of CDI terminals. Replace the CDI unit if the readings do not fall within the limits shown in the table.

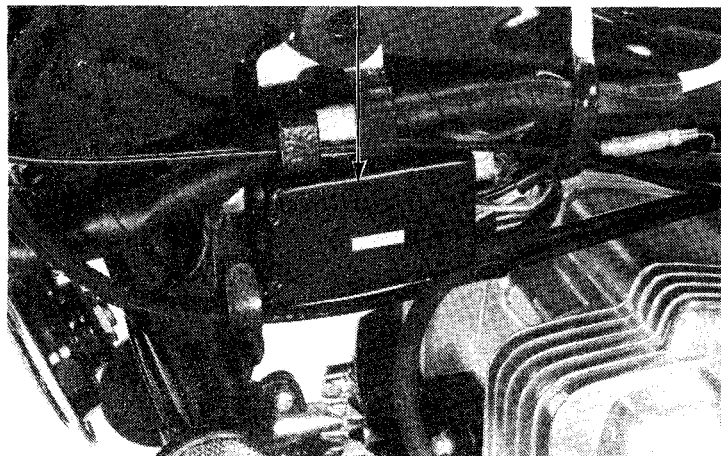
NOTE

- The CDI unit is fully transistorized. For accurate testing, it is necessary to use a specified electrical tester. Use of an improper tester or measurements in improper range may give false readings.
- Use a Sanwa Electrical Tester (SP-10D) P/N 07308-0020000, Kowa Electrical Tester (TH-5H) or Kowa digital tester KS-AHM-32-003 (U.S.A. only).
- Discharge the capacitor before testing. "NEEDLE SWINGS AND RETURNS" indicates that a capacitor is being charged with the tester. The tester needle will stay at infinity in subsequent tests unless the capacitor is discharged.

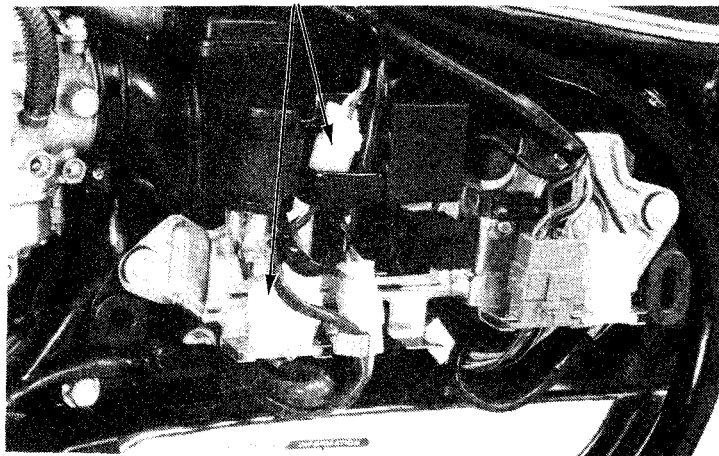
UPPER ROW: MEASURING RANGE
(SANWA TESTER) $\text{xk}\Omega$
LOWER ROW: MEASURING RANGE
(KOWA TESTER) $\text{x}100\Omega$

The resistances shown in the table indicate those to be read on the tester, not of specific circuits or parts.

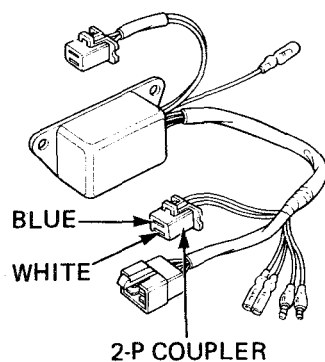
CDI UNIT



CDI UNIT COUPLERS



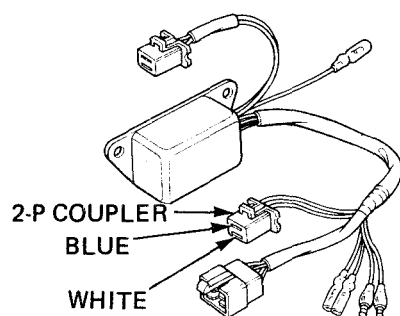
CB450T, CM450C/E



Probe (+) Probe (-)	Brown	Light Blue	White	Green	Pink	Blue	Black/ White	Yellow
Brown		10 ~ 20 30 ~ 80	500 ~ ∞ 1K ~ ∞	3 ~ 8 10 ~ 20	4 ~ 11 15 ~ 50	500 ~ ∞ 1K ~ ∞	1M ~ ∞ 1K ~ ∞	500 ~ ∞ 1K ~ ∞
Light Blue	1M ~ ∞ 1K ~ ∞		1M ~ ∞ 1K ~ ∞	1M ~ ∞ 1K ~ ∞	1M ~ ∞ 1K ~ ∞	1M ~ ∞ 1K ~ ∞	1M ~ ∞ 1K ~ ∞	1M ~ ∞ 1K ~ ∞
White	1M ~ ∞ 1K ~ ∞	10 ~ 20 20 ~ 60		3 ~ 7 5 ~ 20	2 ~ 20 15 ~ 40	1M ~ ∞ 1K ~ ∞	1M ~ ∞ 1K ~ ∞	1M ~ ∞ 1K ~ ∞
Green	1M ~ ∞ 1K ~ ∞	3 ~ 8 5 ~ 20	500 ~ ∞ 1K ~ ∞		0.5 ~ 3 5 ~ 20	500 ~ ∞ 1K ~ ∞	1M ~ ∞ 1K ~ ∞	500 ~ ∞ 1K ~ ∞
Pink	1M ~ ∞ 1K ~ ∞	3 ~ 12 10 ~ 40	500 ~ ∞ 1K ~ ∞	0.5 ~ 3 5 ~ 20		500 ~ ∞ 1K ~ ∞	1M ~ ∞ 1K ~ ∞	500 ~ ∞ 1K ~ ∞
Blue	1M ~ ∞ 1K ~ ∞	1M ~ ∞ 1K ~ ∞	1M ~ ∞ 1K ~ ∞	1M ~ ∞ 1K ~ ∞	1M ~ ∞ 1K ~ ∞		1M ~ ∞ 1K ~ ∞	1M ~ ∞ 1K ~ ∞
Black/ White	1M ~ ∞ 1K ~ ∞	1M ~ ∞ 1K ~ ∞	1M ~ ∞ 1K ~ ∞	1M ~ ∞ 1K ~ ∞	1M ~ ∞ 1K ~ ∞	20 ~ 100 100 ~ 500		1M ~ ∞ 1K ~ ∞
Yellow	1M ~ ∞ 1K ~ ∞	↘	1M ~ ∞ 1K ~ ∞	↘	↘	↘	1M ~ ∞ 1K ~ ∞	

↘ : Needle swings and back to ∞ .

CM450A



Probe (-) Probe (+)	Blue	White	Brown	Pink	Green	Yellow	Black/ White	Green/ White	Light blue (To change ignition timing)	Orange
Blue		∞	∞	∞	∞	∞	0.5 ~ 10	∞	∞	∞
White	∞		∞	∞	∞	∞	∞	∞	∞	∞
Brown	∞	2 ~ 50		5 ~ ∞	0 ~ 20	∞	∞	0 ~ 20	0 ~ 20	0 ~ 20
Pink	∞	2 ~ 50	0 ~ 20		0 ~ 20	∞	∞	0 ~ 20	0 ~ 20	0 ~ 20
Green	∞	0 ~ 20	0 ~ 20	0 ~ 20		∞	∞	0 ~ 1	0 ~ 20	0 ~ 20
Yellow	∞	2 ~ 50	2 ~ 50	2 ~ 50	0 ~ 20		∞	0 ~ 20	0 ~ 20	0 ~ 20
Black/ White	∞	∞	∞	∞	∞	∞		∞	∞	∞
Green/ White	∞	0 ~ 20	0 ~ 20	0 ~ 20	0 ~ 1	∞	∞		0 ~ 20	0 ~ 20
Light blue (To change ignition timing)	∞	0 ~ 20	0 ~ 20	0 ~ 20	0 ~ 20	∞	∞	0 ~ 20		0 ~ 20
Orange	∞	2 ~ 50	0 ~ 20	2 ~ 50	0 ~ 20	∞	∞	0 ~ 20	0 ~ 20	

NOTE

The pulse coil must be grounded to the stator when making a bench test for the Green to Light Blue and Green to Brown checks.



ALTERNATOR

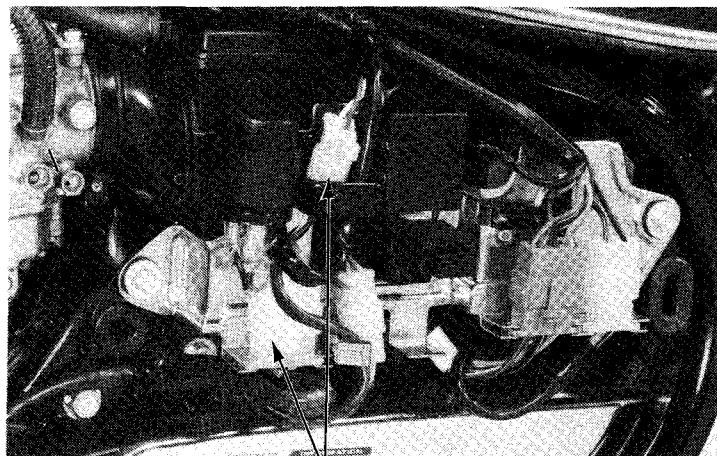
INSPECTION

Disconnect the stator wires at their connections.
Measure resistances between the terminals.

NOTE

- **TESTER MEASURING RANGE:**
x10 Ω
- Use the HONDA SERVICE TESTER (07308-0020000) to perform this test.

For alternator removal and installation procedure, refer to Section 18.



ALTERNATOR COUPLERS

CB450T, CM450C/E

	OHMS
Green and white	315-385
Blue and white	77-95
Green and brown	76-92
Green and light blue	95-116
Green and pink	126-154

CM450A

	OHMS
Blue and white	4-7
White and green	200-500
Brown and orange	100-200
Pink and green	10-30

SIDE STAND SWITCH (CM450A ONLY)

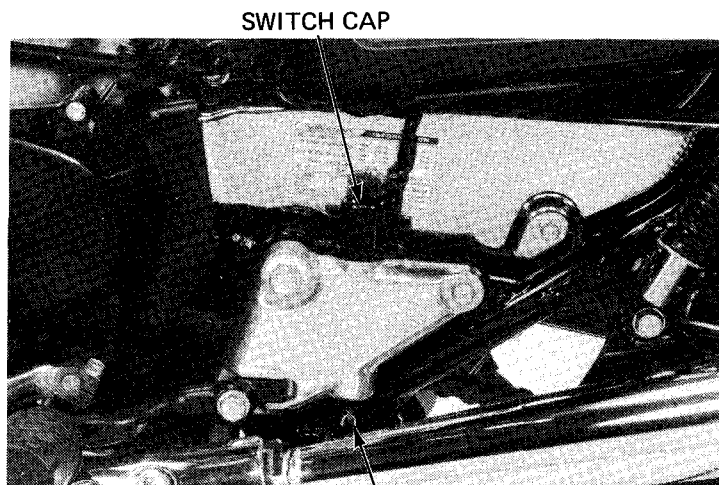
REMOVAL/INSTALLATION

Raise the side stand and unhook the switch spring.

Remove the left side cover and disconnect the switch wire connectors.

Remove the switch cap.

Remove the side stand switch.

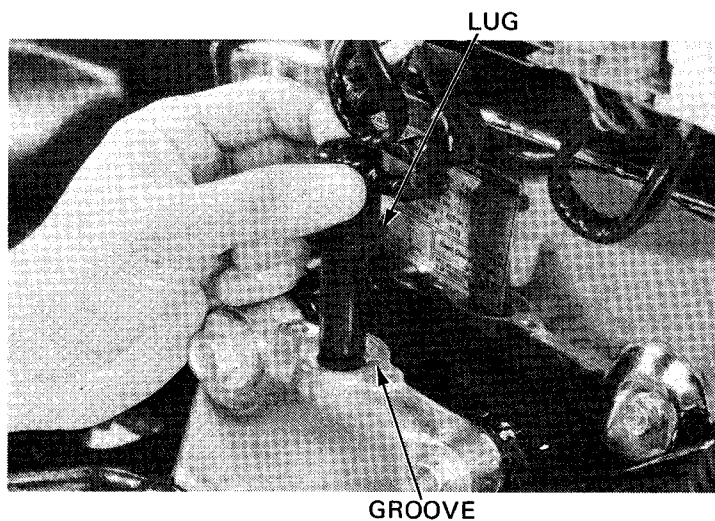


SWITCH SPRING

Install the side stand switch in the reverse order of removal.

NOTE

- Be sure to install the boot on the switch.
- Align the switch lug with the groove in the foot peg bracket.



SERVICE INFORMATION	20-1
TROUBLESHOOTING	20-1
STARTER MOTOR	20-2
STARTER RELAY SWITCH	20-6
CHANGE RELAY	20-6

SERVICE INFORMATION

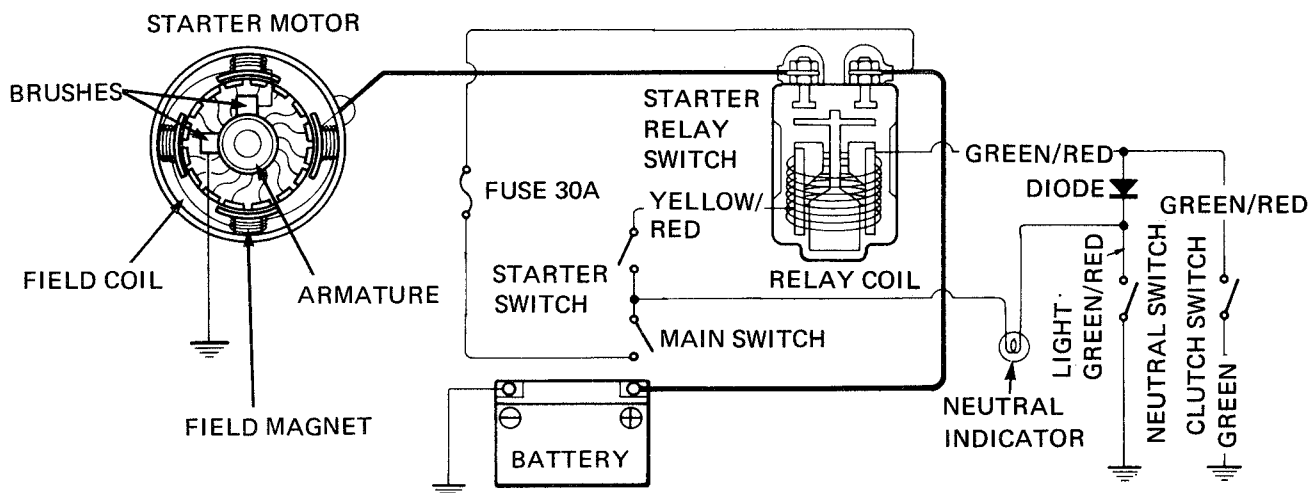
GENERAL

- The starter motor can be removed with the engine in the frame.
- See Section 13 for the starter clutch.

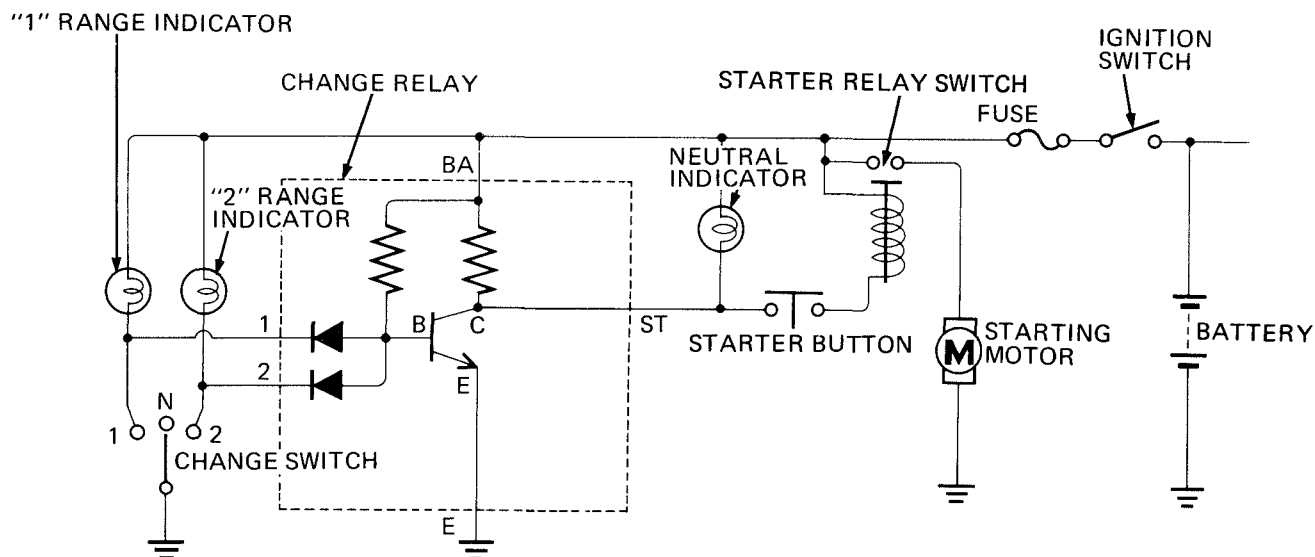
SPECIFICATIONS

		STANDARD	SERVICE LIMIT
Starter motor	Brush spring tension	495-605 g	400 g
	Brush length	11.0-12.5 mm (0.43-0.49 in)	5.5 mm (0.21 in)

CB450T, CM450C/E



CM450A



TROUBLESHOOTING

Starter motor will not turn:

1. Battery discharged
2. Faulty ignition switch
3. Faulty starter switch
4. Faulty neutral switch (except CM450A)
5. Faulty starter relay switch
6. Loose or disconnected wire or cable
7. Neutral diode open (except CM450A)
8. Faulty change switch (CM450A)
9. Faulty change relay (CM450A)

Starter motor turns engine slowly

1. Low specific gravity
2. Excessive resistance in circuit
3. Binding in starter motor

Starter motor turns, but engine does not turn:

1. Faulty starter clutch
2. Faulty starter motor gears
3. Faulty starter motor or idle gear

Starter motor and engine turns, but engine does not start

1. Faulty ignition system
2. Engine problems



STARTER MOTOR

REMOVAL

WARNING

With the ignition switch OFF, remove the negative cable at the battery before servicing the starter motor.

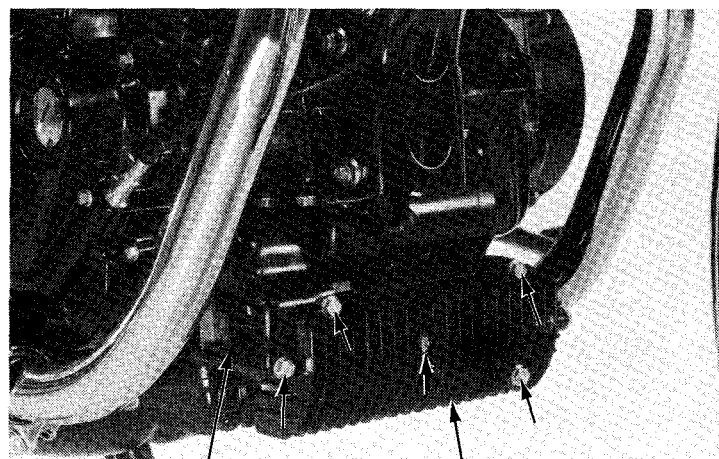
Drain the engine oil.

Remove the oil pressure switch protector cover and disconnect the oil pressure switch wire.

Remove the oil cooler.

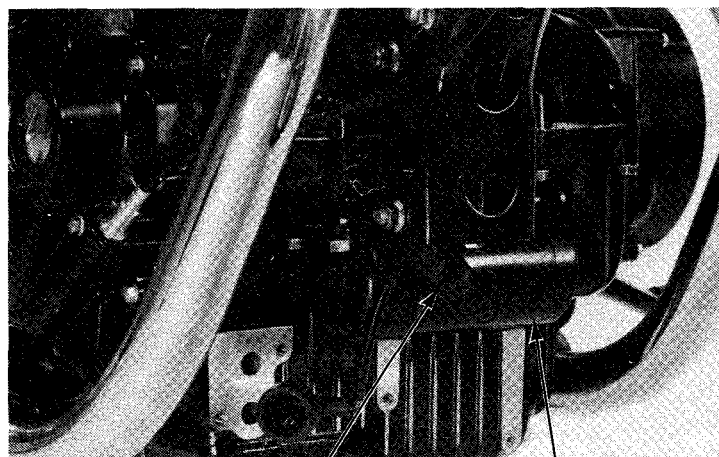
Disconnect the starter cable.

Remove the two mounting bolts and remove the starter motor.



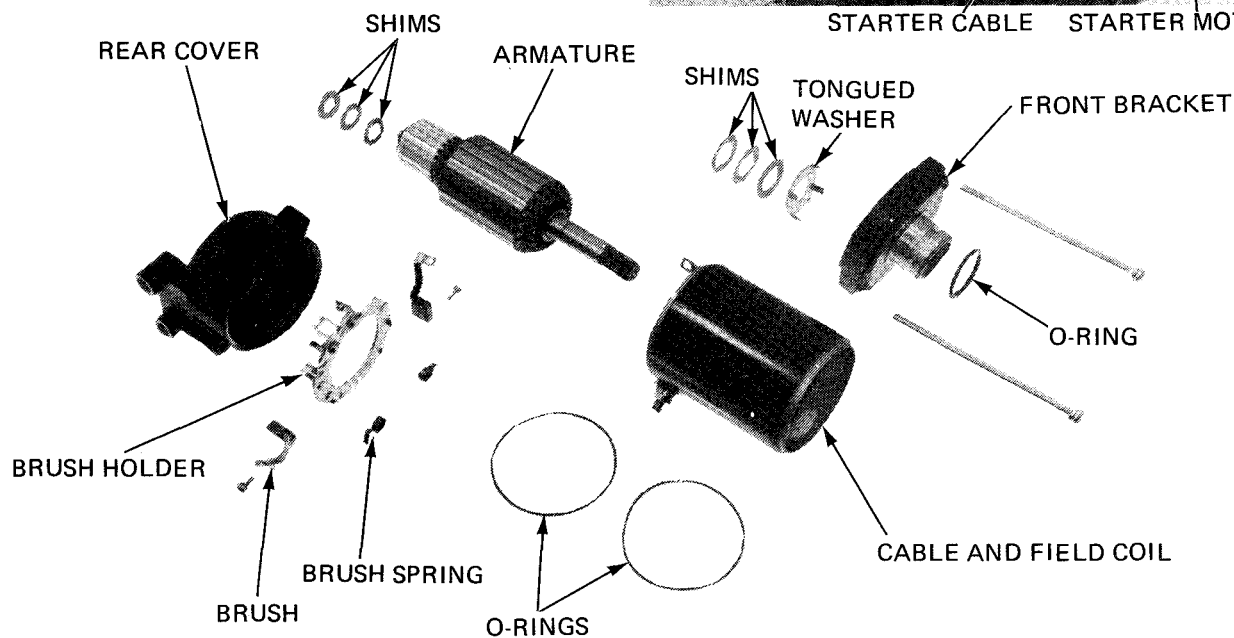
PROTECTOR COVER

OIL COOLER



STARTER CABLE

STARTER MOTOR



BRUSH INSPECTION

Remove the starter motor case screws.

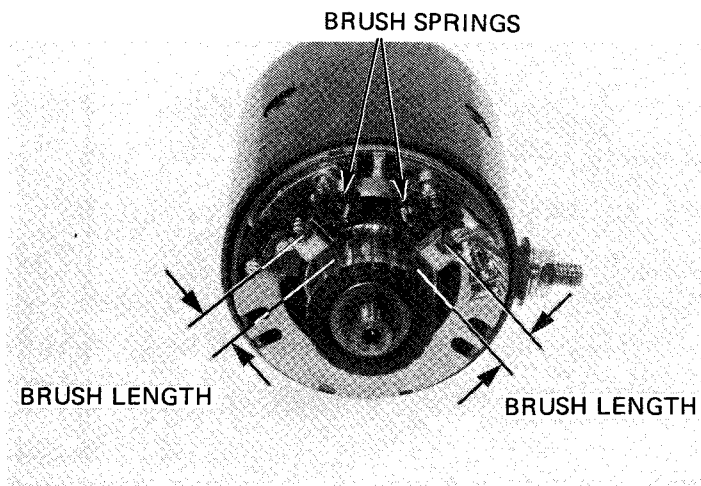
Inspect the brushes and measure the brush length.

Measure brush spring tension with a spring scale.

SERVICE LIMITS:

Brush length: 5.5 mm (0.22 in)

Brush spring tension: 400 g



COMMUTATOR INSPECTION

Remove the starter motor case.

NOTE

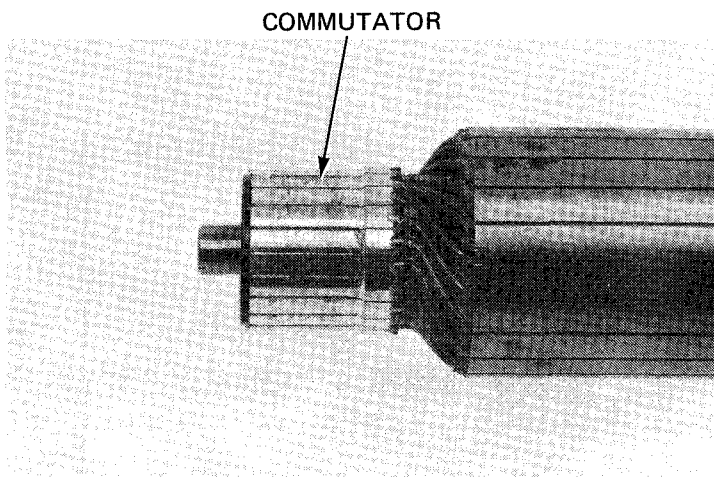
Record the location and number of thrust washers.

Inspect the commutator bars for discoloration.

Bars discolored in pairs indicate grounded armature coils.

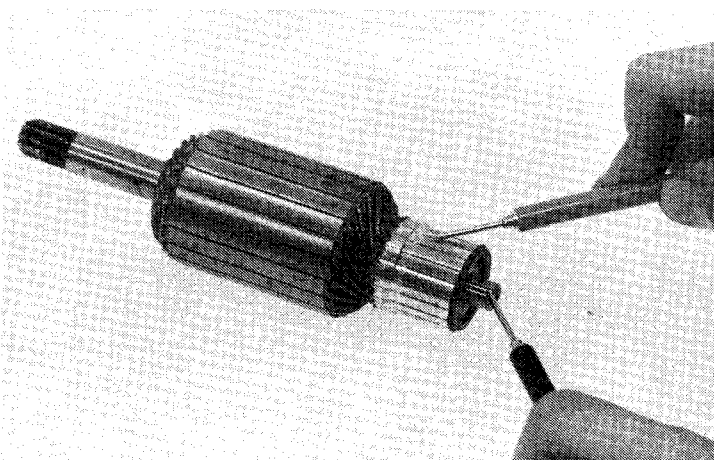
NOTE

Do not use emery or sand paper on the commutator.



Check for continuity between pairs of commutator bars, and also between commutator bars and armature shaft.

There should be continuity between the pairs of commutator bars, and no continuity between the commutator bars and armature shaft.



FIELD COIL INSPECTION

Check for continuity from the cable terminal to the motor case and from the cable terminal to the brush wire.

Replace the starter motor if the field coil is not continuous or if it is shorted to the motor case.

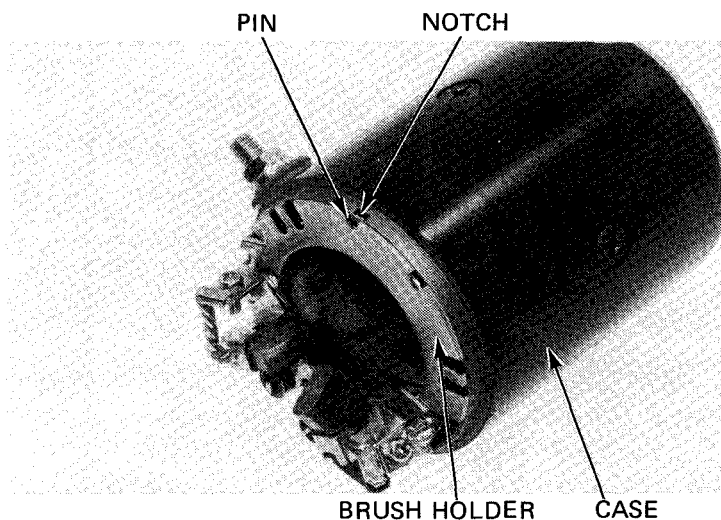
There should be continuity between the cable terminal and brush wires and no continuity between the cable terminal and case.



ASSEMBLY/INSTALLATION

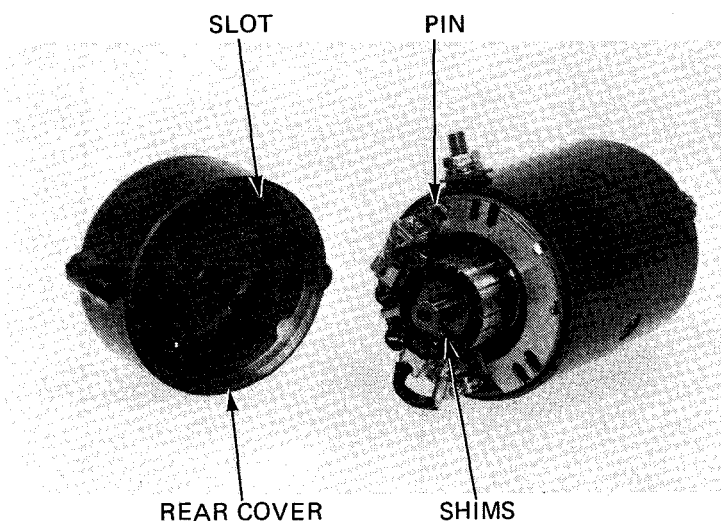
Assemble the starter motor.

Align the case notch with the brush holder pin.



Install the rear cover aligning its slot with the brush holder pin.

Be sure to install the original number of shims.

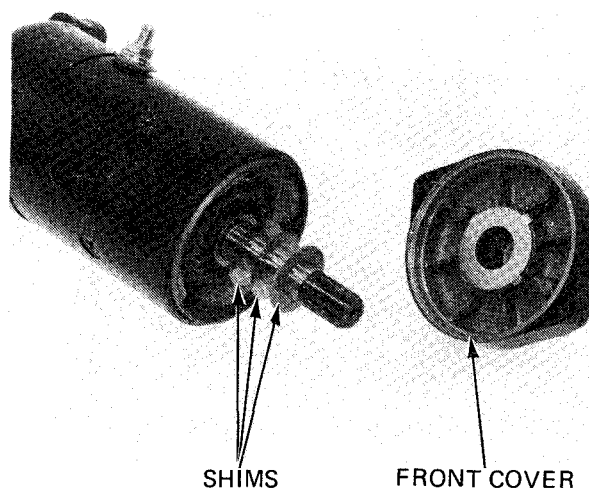


Position the tongued washer on the front cover and install the front cover.

Be sure to install the original number of shim.

Install the starter motor in the reverse order of removal.

Fill the engine with oil (page 2-3).



STARTER RELAY SWITCH

INSPECTION

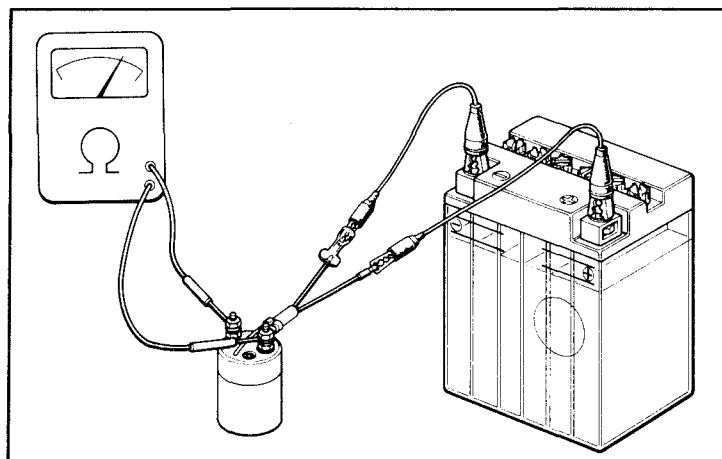
Depress the starter switch button with the ignition ON.

The coil is normal if the starter relay switch clicks.

Connect an ohmmeter to the starter relay switch terminals.

Connect a 12 V battery to the switch cable terminals.

The switch is normal if there is continuity.



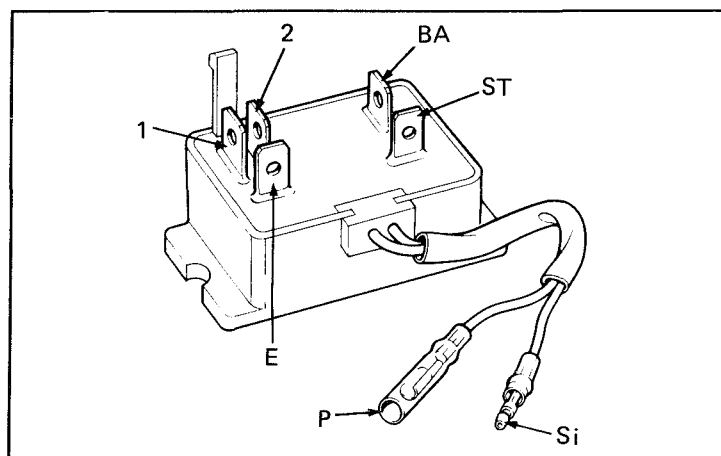
CHANGE RELAY

Disconnect wiring. Check resistance of change relay terminals. Replace the change relay if the readings do not fall within the limits shown in the table.

NOTE

- The change relay is transistorized. For accurate testing, it is necessary to use a high quality electrical tester. Use of an improper tester or measurements in improper instrument range may give false readings.

- USE SANWA ELECTRICAL TESTER P/N 07308-0020000 or KOWA ELECTRICAL TESTER P/N TH5H-1.





		(+) PROBE						
(-) PROBE	Termi- nals	1	2	BA	ST	Si	P	E
	1		● 10kΩ MIN.	○ 500Ω ~2kΩ	○ 500Ω ~3kΩ	● 10kΩ MIN.	○ 500Ω ~5kΩ	○ 500Ω ~5kΩ
	2	● 10kΩ MIN.		○ 500Ω ~2kΩ	○ 500Ω ~3kΩ	● 10kΩ MIN.	○ 500Ω ~5kΩ	○ 500Ω ~5kΩ
	BA	● 10kΩ MIN.	● 10kΩ MIN.		○ 200Ω MAX.	● 10kΩ MIN.	○ 500Ω MAX.	○ 500Ω MAX.
	ST	● 10kΩ MIN.	● 10kΩ MIN.	○ 200Ω ~1kΩ		● 10kΩ MIN.	○ 200Ω MAX.	○ 200Ω MAX.
	Si	● 10kΩ MIN.	● 10kΩ MIN.	○ 400Ω ~2kΩ	○ 200Ω ~2kΩ		○ 200Ω ~3kΩ	○ 200Ω ~2kΩ
	P	● 10kΩ MIN.	● 10kΩ MIN.	● 10kΩ MIN.	● 10kΩ MIN.	● 10kΩ MIN.		● 10kΩ MIN.
	E	● 10kΩ MIN.	● 10kΩ MIN.	○ 300Ω ~2kΩ	○ 300Ω ~5kΩ	● 10kΩ MIN.	○ 500Ω ~10kΩ	

- : MEASURING RANGE xkΩ
○ : MEASURING RANGE x10Ω



SERVICE INFORMATION	21-1
OIL PRESSURE WARNING SWITCH	21-2
BRAKE SWITCH	21-2
CB450T, CM450C/E: CLUTCH SWITCH	21-2
HANDLEBAR SWITCHES	21-3
IGNITION SWITCH	21-5
CM450C/E: NEUTRAL/OVERDRIVE SWITCH	21-5
CB450T: NEUTRAL SWITCH	21-5
CM450A: CHANGE SWITCH	21-6

SERVICE INFORMATION

GENERAL

- Some wires have different colored bands around them near the connector. These are connected to other wires which correspond with the band color.
- All plastic plugs have locking tabs that must be released before disconnecting, and must be aligned when reconnecting.
- The following color codes used are indicated throughout this section and on the wiring diagram.

Bu = Blue
Bl = Black
Br = Brown

G = Green
Gr = Grey
Lb = Light Blue

Lg = Light Green
O = Orange
P = Pink

R = Red
W = White
Y = Yellow

- To isolate an electrical failure, check the continuity of the electrical path through the component. A continuity check can usually be made without removing the part from the motorcycle. Simply disconnect the wires and connect a continuity tester or volt-ohmmeter to the terminals or connections.
- A continuity tester is useful when checking to find out whether or not there is an electrical connection between the two points. An ohmmeter is needed to measure the resistance of a circuit, as when there is a specific coil resistance involved, or when checking for high resistance by corroded connections.

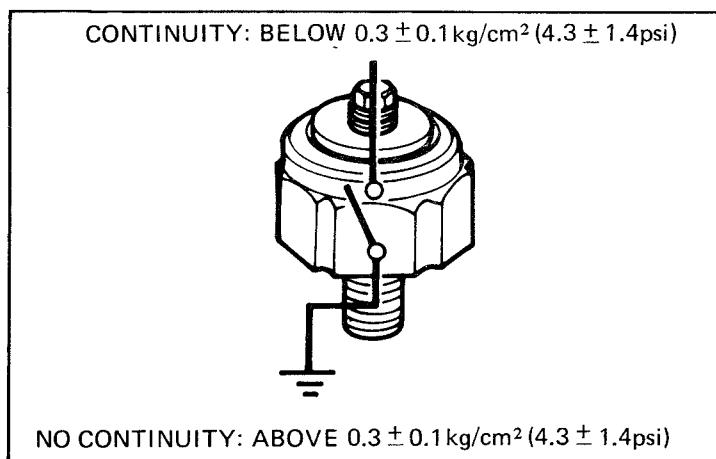


OIL PRESSURE WARNING SWITCH

Check for continuity while applying pressure to the switch.

Replace the switch if necessary.

Apply a liquid sealant to the switch threads.

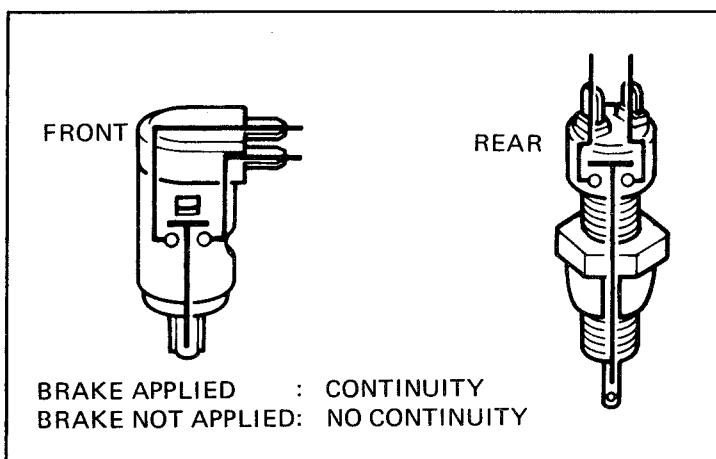


BRAKE SWITCH

Check the rear brakelight switch for continuity with the rear brake applied.

Check the front brakelight switch for continuity with the front brake applied.

Replace the switches if necessary.



CB450T, CM450C/E: CLUTCH SWITCH

Check continuity of the clutch lever (safety) switch with the clutch released and applied.

Replace if necessary.

REMOVAL

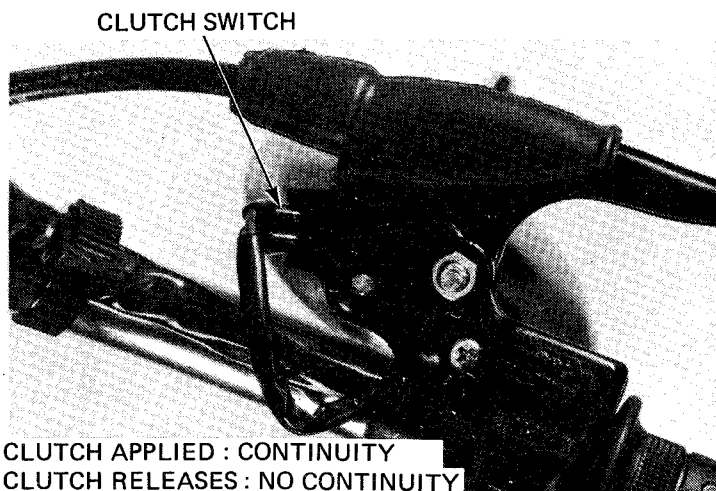
Unplug the wires.

Remove the clutch lever and cable.

Remove the switch.

NOTE

The switch case has a small protrusion that must point toward the handlebar when installed.



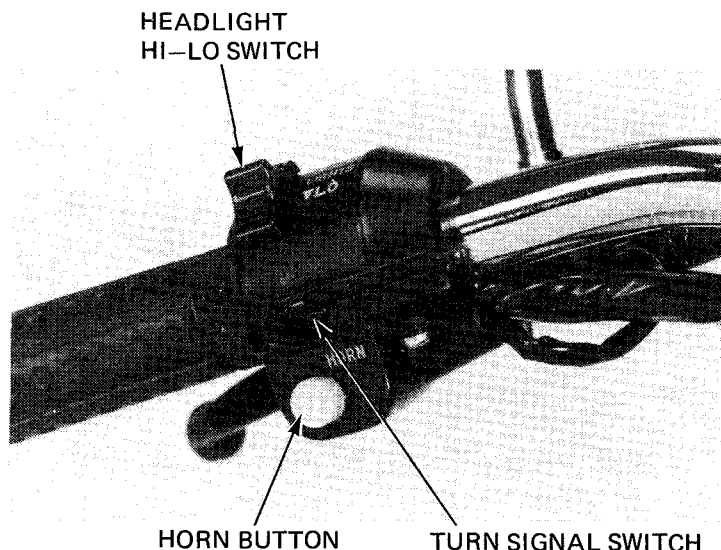


HANDLEBAR SWITCHES

The handlebar cluster switches (lights, turn signals, horn) must be replaced as assemblies.

Continuity tests for the components of the handlebar cluster switches follow:

Continuity should exist between the color coded wires on each chart.



HEADLIGHT HI-LOW SWITCH

HI: Bu/W to Bu
MIDDLE (N): Bu/W to W to Bu
LO: Bu/W to W

Headlight Hi-Low Switch

	HL	Hi	Lo
Hi	○	○	
(N)	○	○	○
Lo	○		○
Code color	Bu/W	Bu	W

TURN SIGNAL SWITCH

LEFT: Gr to O, Br/W to Lb/W
OFF: No continuity
RIGHT: Gr to Lb, Br/W to O/W

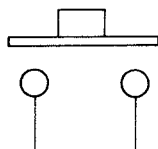
Turn Signal Switch

	W	L	R
LEFT	○	○	
OFF			
RIGHT	○		○
Code color	Gr	O	Lb

HORN BUTTON

Lg to G with button depressed
No continuity with button released

Horn Button

	Ho	E
		
Code color	Lg	G



SWITCHES

STARTER BUTTON

BI to Y/R with button depressed

Starter Button

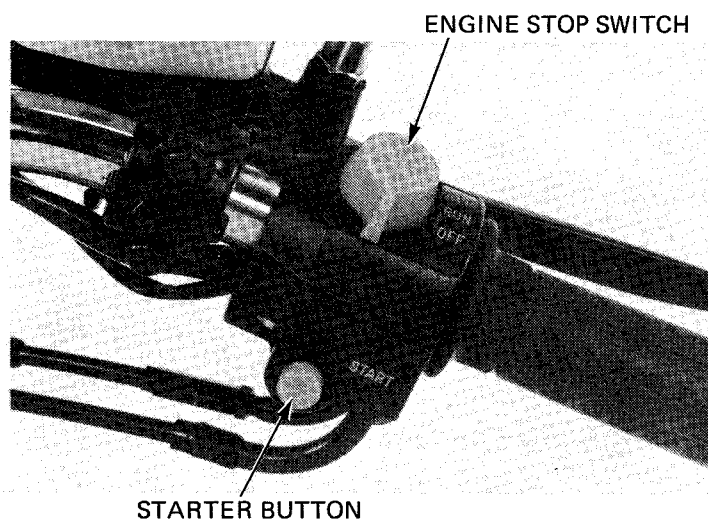
	BAT ₂	ST
FREE		
START	○ — ○	
Code color	BI	Y/R

ENGINE STOP SWITCH

RUN: BI to BI/W
OFF: No continuity

Engine Stop Switch

	BAT ₂	IG
OFF		
RUN	○ — ○	
OFF		
Code color	BI	BI/W





IGNITION SWITCH

Refer to Section 15 for removal.

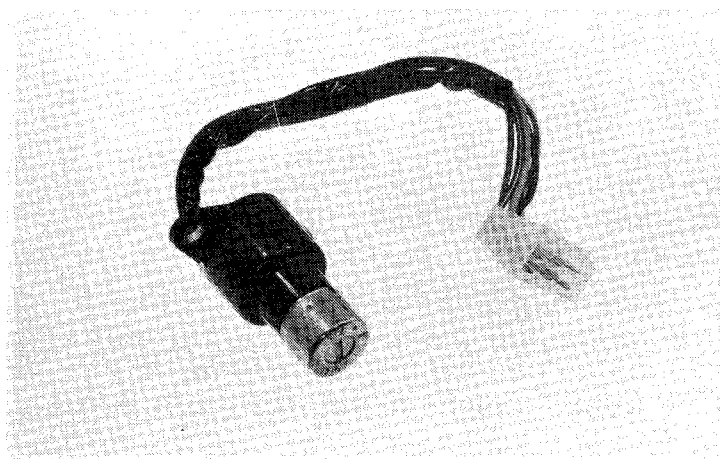
Check continuity of terminals on the ignition switch in each switch position.

PARK: R to Br, Bl/W to G

ON: R to Bl, Br/W to Br

OFF: Bl/W to G

Terminal Position	BAT ₁	BAT ₂	TL ₁	TL ₂	IG	E
P						
ON						
OFF						
Code color	R	Bl	Br/W	Br	Bl/W	G



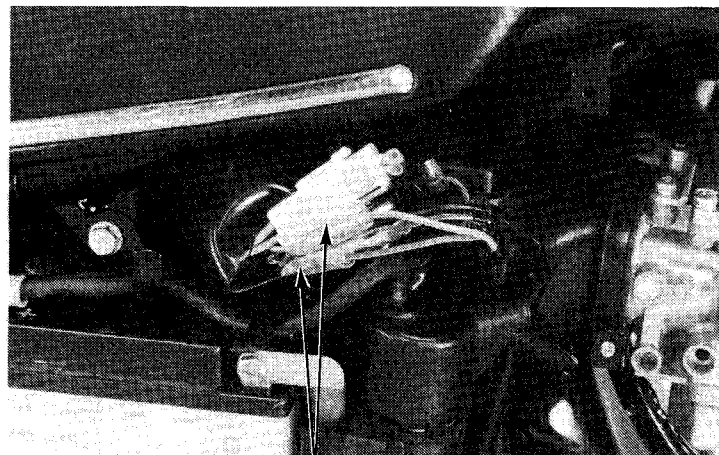
CM 450C/E: NEUTRAL/OVERDRIVE SWITCH

Remove the right side cover and disconnect the neutral/overdrive switch wire connectors.

Check for continuity between each wire connector and ground with the transmission in neutral or over drive.

NEUTRAL: Continuity between Lg/R and ground

OVERDRIVE: Continuity between G/O and ground

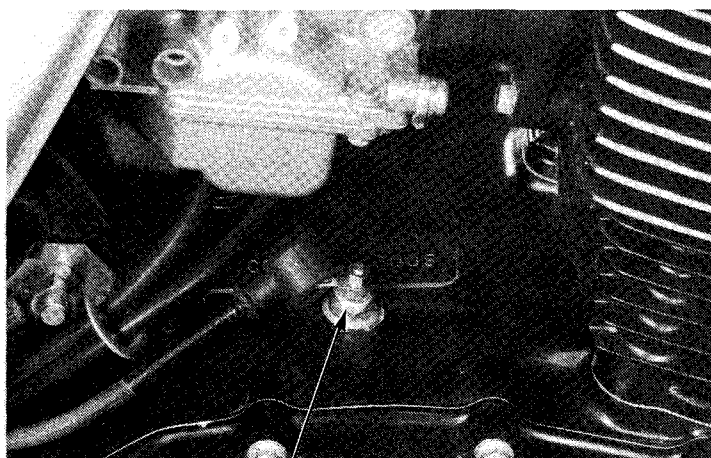


NEUTRAL/OVERDRIVE SWITCH
WIRE CONNECTORS

CB450T: NEUTRAL SWITCH

Check the switch for continuity between the switch terminal (wire removed) and ground with the transmission in neutral and with the transmission in any gear.

Replace the neutral switch if necessary.



NEUTRAL SWITCH



CM450A: CHANGE SWITCH

Remove the left side cover and disconnect the change switch wire coupler.

Check for continuity between each connector and ground with the transmission in each range.

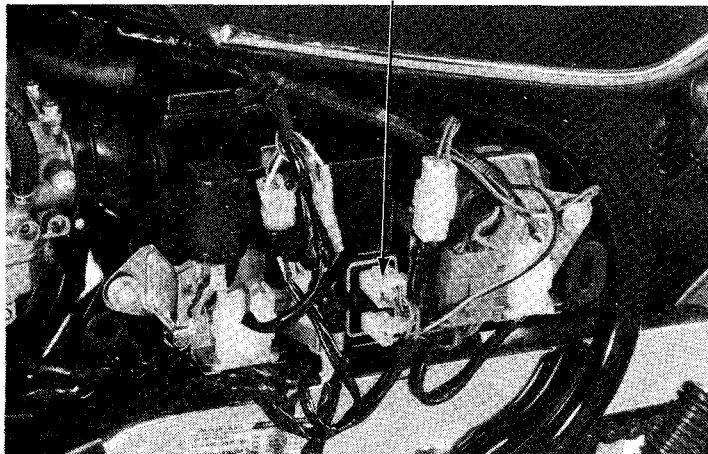
NEUTRAL : No continuity

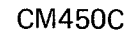
1 RANGE : Continuity between Bu/Y and ground

2 RANGE : Continuity between Br/R and ground

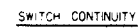
Replace the switch if necessary.

CHANGE SWITCH COUPLER












22



TURN SIGNAL SWITCH							DIMMER SWITCH				HORN SWITCH		
	W	R	L	TL	PR	PL		HL	H ₁	L ₀		H ₀	E
R	○	○		○	○	○	H ₁	○	○		ON	○	○
N				○	○	○	N	○	○	○	OFF		
L	○	○	○	○	○		L ₀	○	○	○			

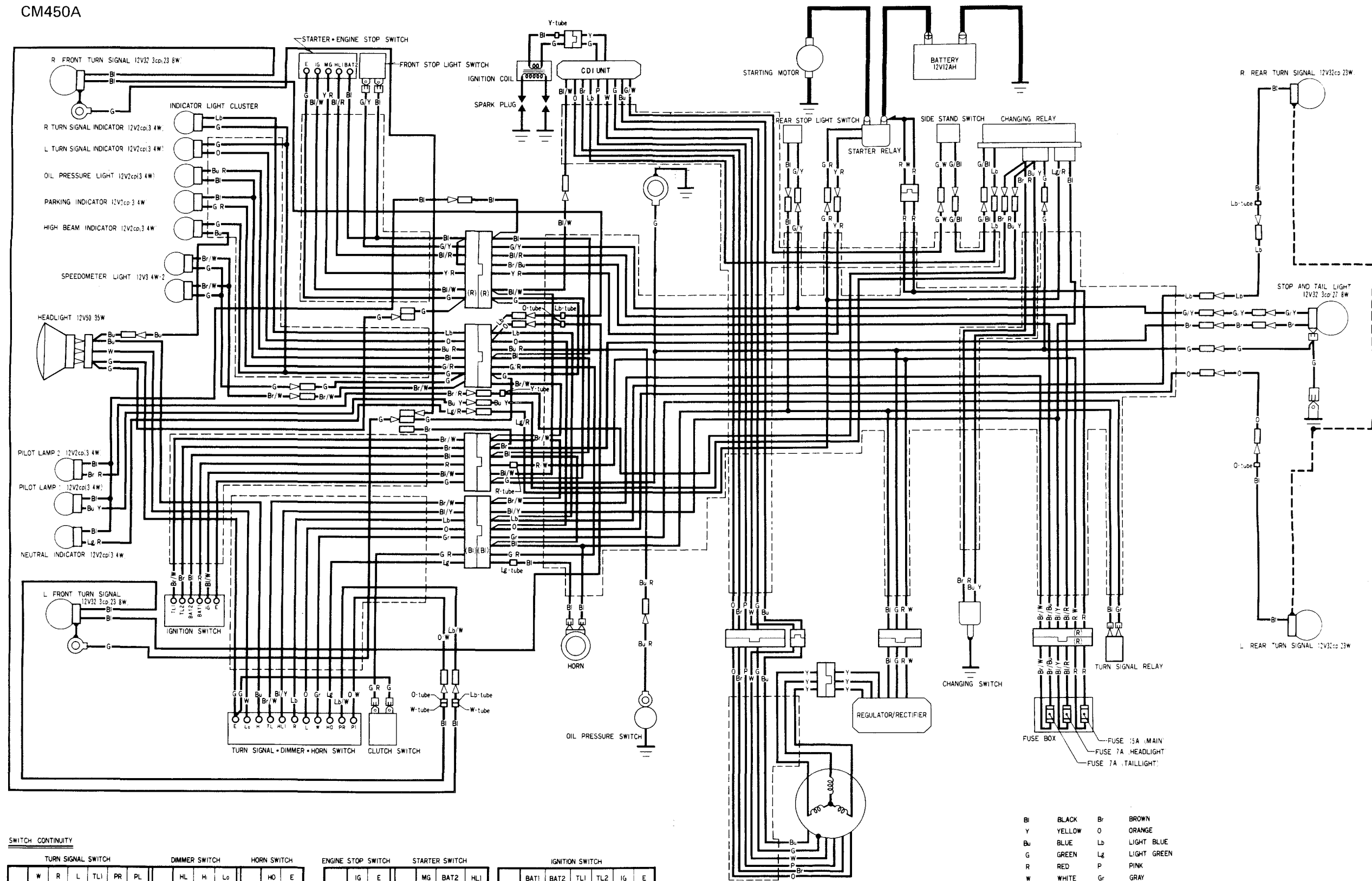
ENGINE STOP SWITCH			STARTER SWITCH		
	IG	E		MG	BAT2
OFF			ON		
RUN			OFF		
OFF					

IGNITION SWITCH						
	BAT1	BAT2	TL1	TL2	IG	E
OFF					○	○
ON	○	○	○	○		
P	○	○	○	○	○	○

Bl	BLACK	Br	BROWN
Y	YELLOW	O	ORANGE
Blu	BLUE	Lb	LIGHT BLUE
G	GREEN	Lg	LIGHT GREEN
R	RED	P	PINK
W	WHITE	Gr	GRAY

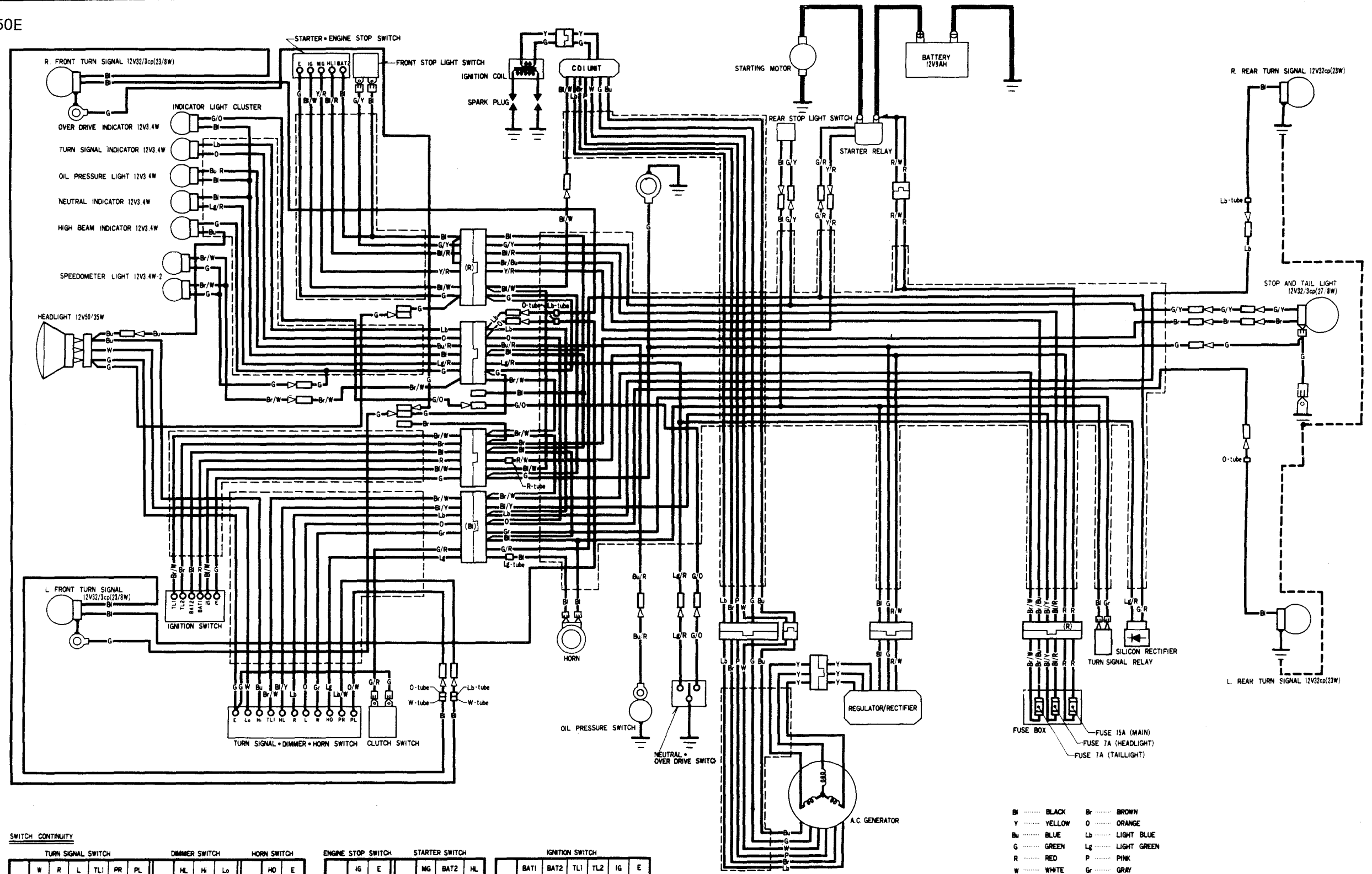
0030Z—MC0—6710

CM450A



0030Z-448-7700

CM450E

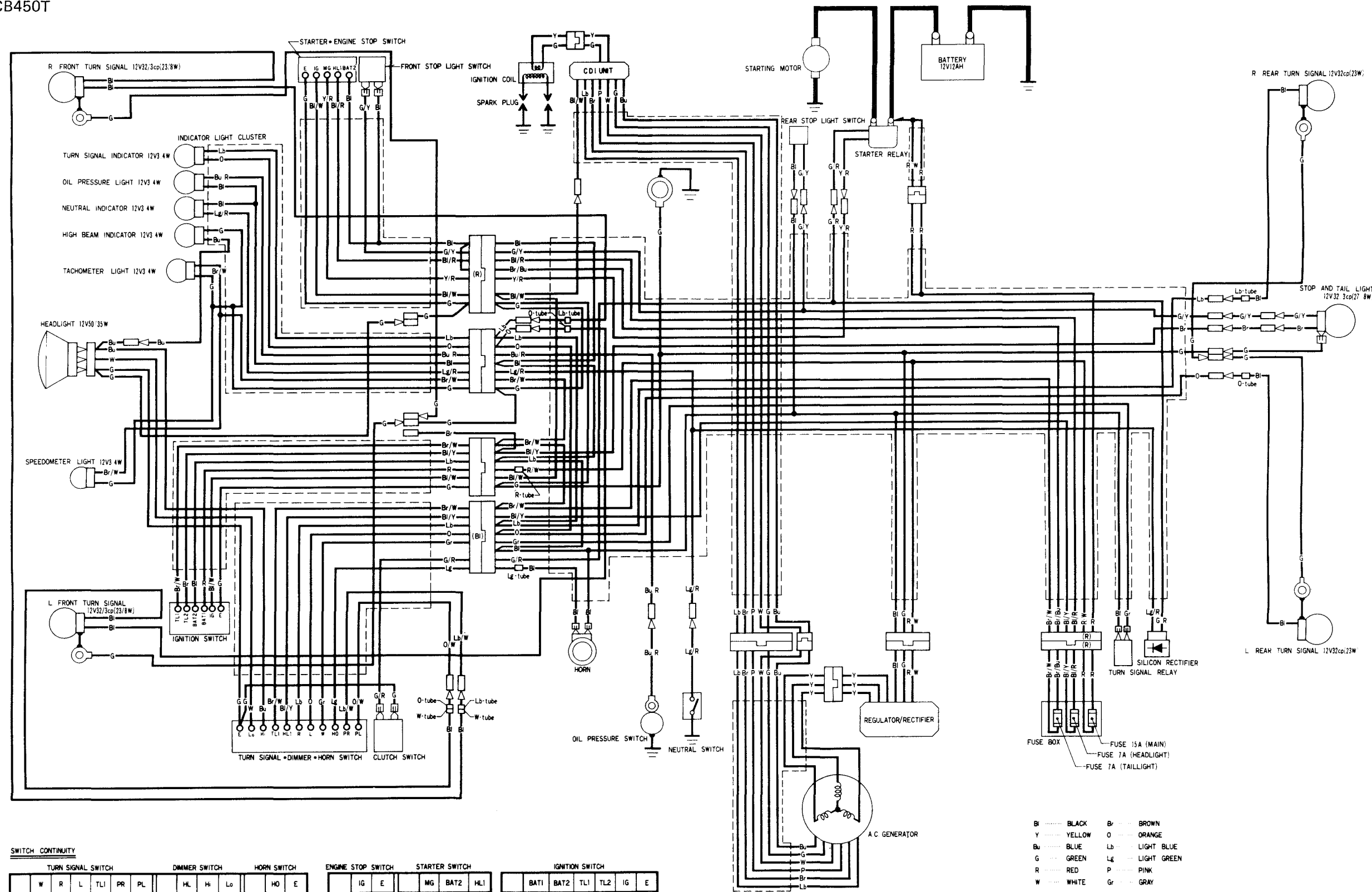


0030Z—MC2—6710

WIRING DIAGRAM



CB450T



SWITCH CONTINUITY

TURN SIGNAL SWITCH						DIMMER SWITCH			HORN SWITCH		ENGINE STOP SWITCH			STARTER SWITCH			IGNITION SWITCH											
	W	R	L	TL1	PR	PL		HL	Hi	Lo		HO	E		IG	E		MG	BAT2	HL1		BAT1	BAT2	TL1	TL2	IG	E	
R	○	○			○	○		Hi	○	○		ON	○	○	OFF	○	○	ON	○	○		OFF					○	○
N					○	○	○	(N)	○	○	○	OFF			RUN			OFF		○	○		ON	○	○	○	○	
L	○		○	○	○	○		Lo	○	○				OFF	○	○						P	○	○	○	○	○	○

- BL BLACK
- Y YELLOW
- BU BLUE
- G GREEN
- R RED
- W WHITE
- Br BROWN
- O ORANGE
- Lb LIGHT BLUE
- Lg LIGHT GREEN
- P PINK
- Gr GRAY

0030Z—ME0—6700

ENGINE DOES NOT START OR IS HARD TO START

Possible Cause:

1. Loosen drain screw and check for fuel at the carburetor.

NO FUEL AT CARBURETOR

- (1) Fuel tank empty
- (2) Clogged fuel tube or fuel filter
- (3) Clogged fuel inlet
- (4) Clogged fuel tank cap breather hole

FUEL REACHING CARBURETOR

2. Remove spark plugs and try spark test.

WEAK OR NO SPARK

- (1) Faulty spark plug
- (2) Fouled spark plug
- (3) Faulty CDI Unit
- (4) Broken or shorted high tension wire
- (5) Faulty alternator
- (6) Broken or shorted ignition coil
- (7) Faulty main switch

GOOD SPARK

3. Test cylinder compression

COMPRESSION LOW

- (1) Kick pedal slipping (CM450A)
- (2) Inadequate valve clearance
- (3) Valve stuck open
- (4) Worn cylinder and piston rings
- (5) Damaged cylinder head gasket
- (6) Valve timing incorrect

COMPRESSION NORMAL

4. Try to start following normal procedure.

ENGINE FIRES BUT STOPS

- (1) Misuse of choke
- (2) Carburetor pilot screw setting incorrect
- (3) Air leaking past intake pipes
- (4) Ignition timing incorrect (CDI unit or alternator faulty)

ENGINE DOES NOT FIRE

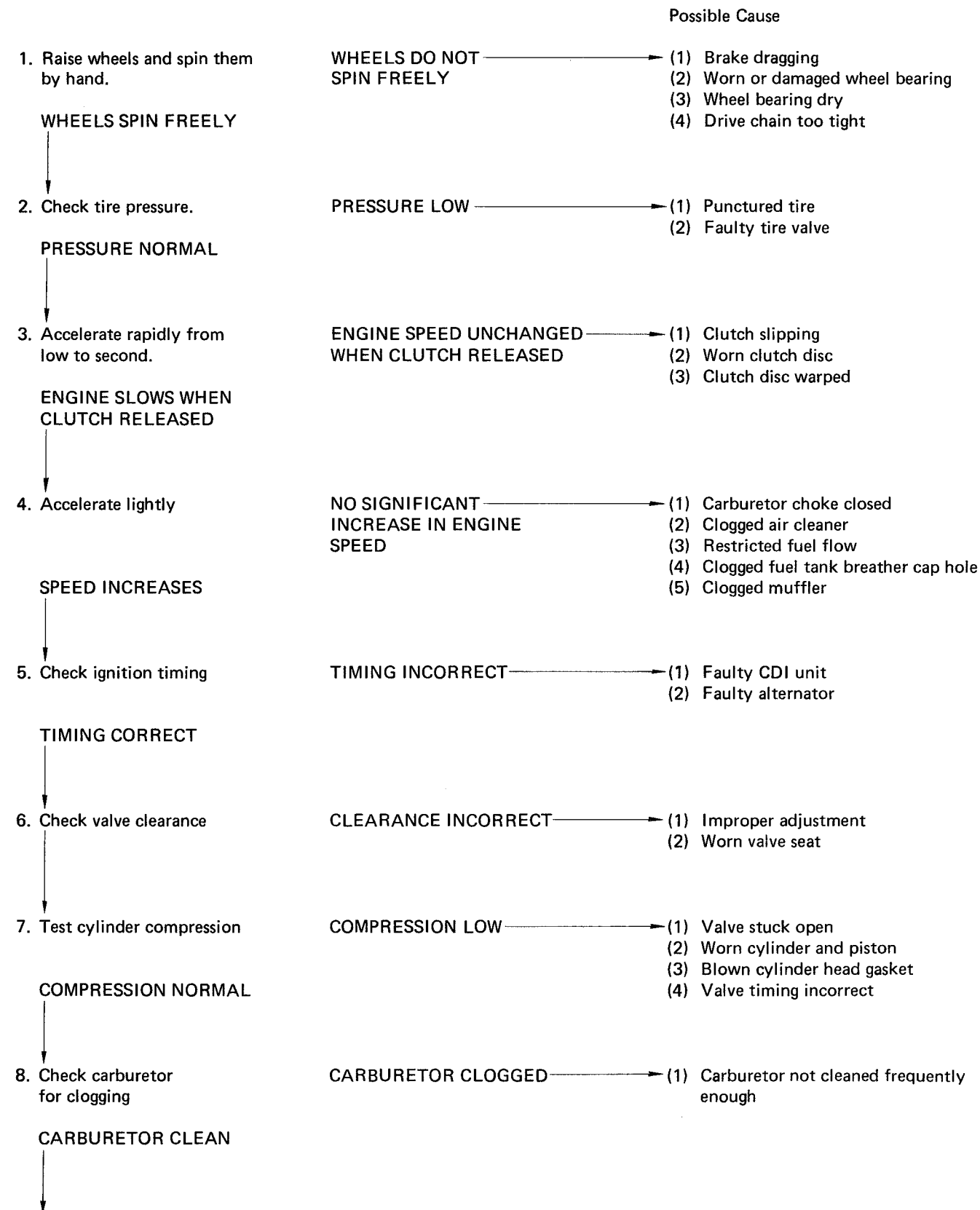
5. Remove and inspect spark plug.

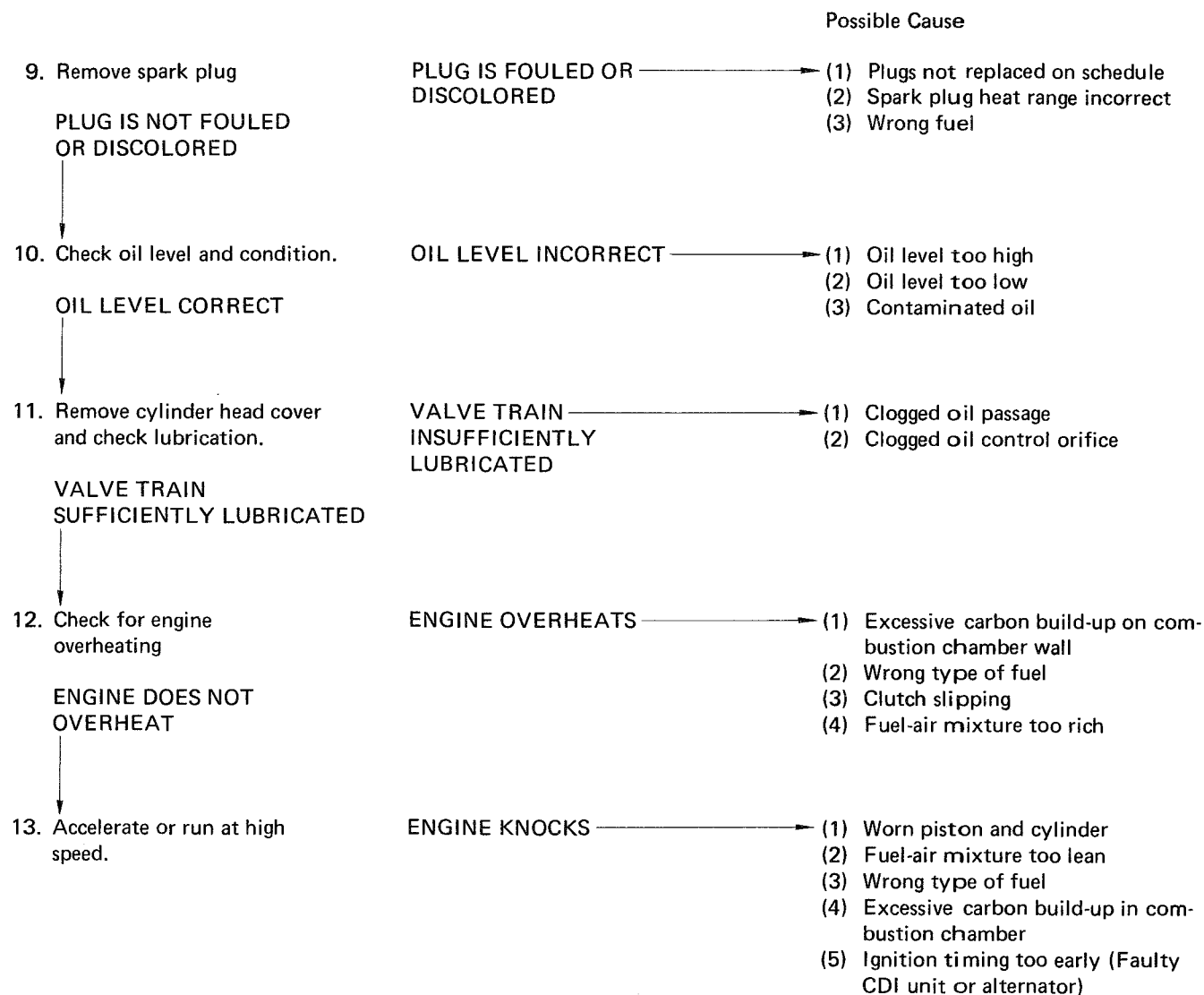
WET PLUG

- (1) Carburetor flooded
- (2) Carburetor choke closed
- (3) Throttle valve stuck open

DRY PLUG

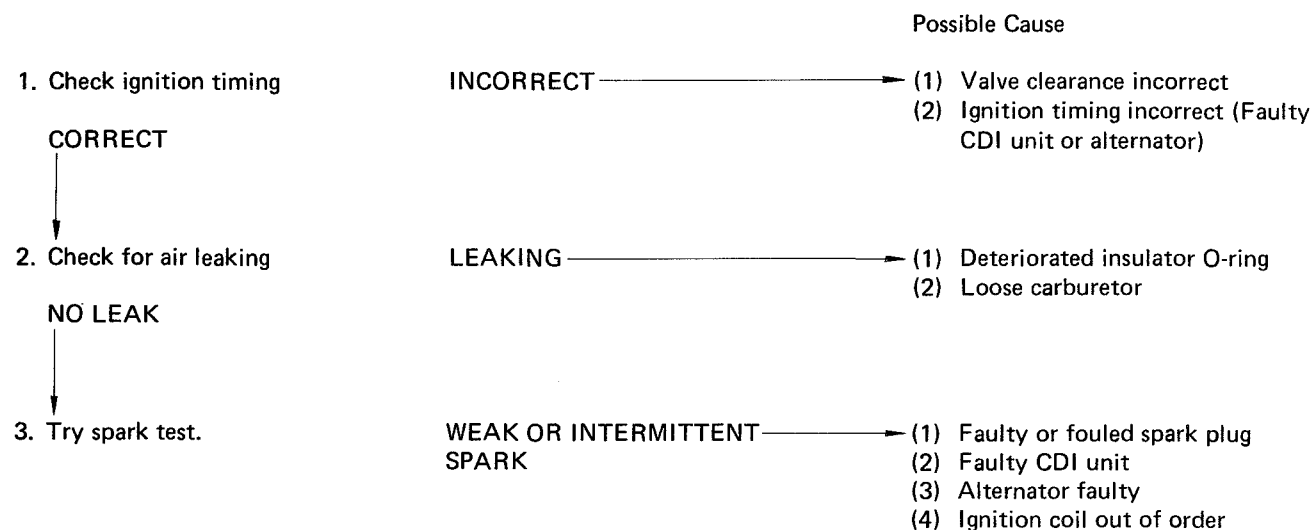
6. Restart with choke applied.


ENGINE LACKS POWER




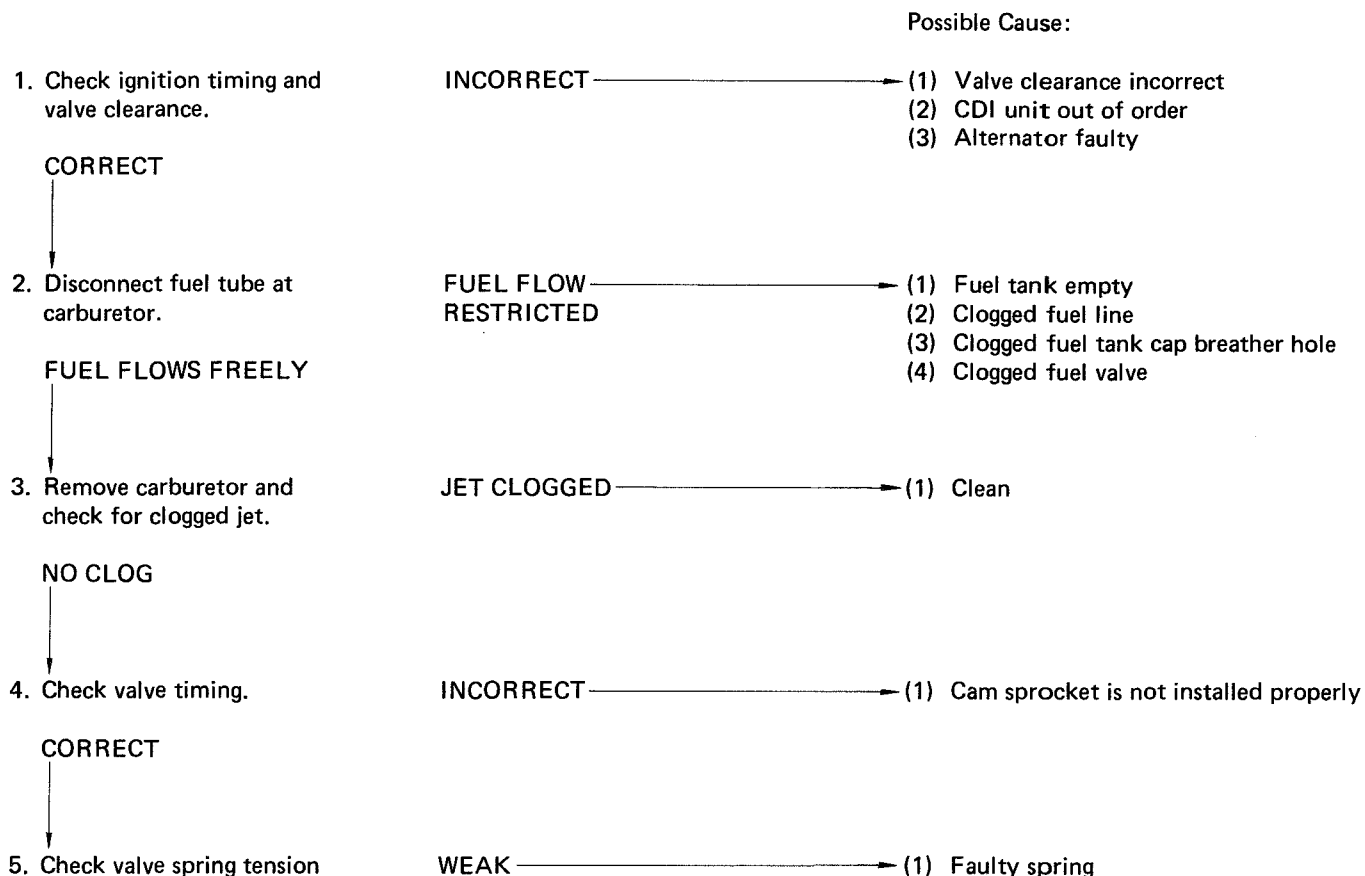


POOR PERFORMANCE AT LOW AND IDLE SPEEDS

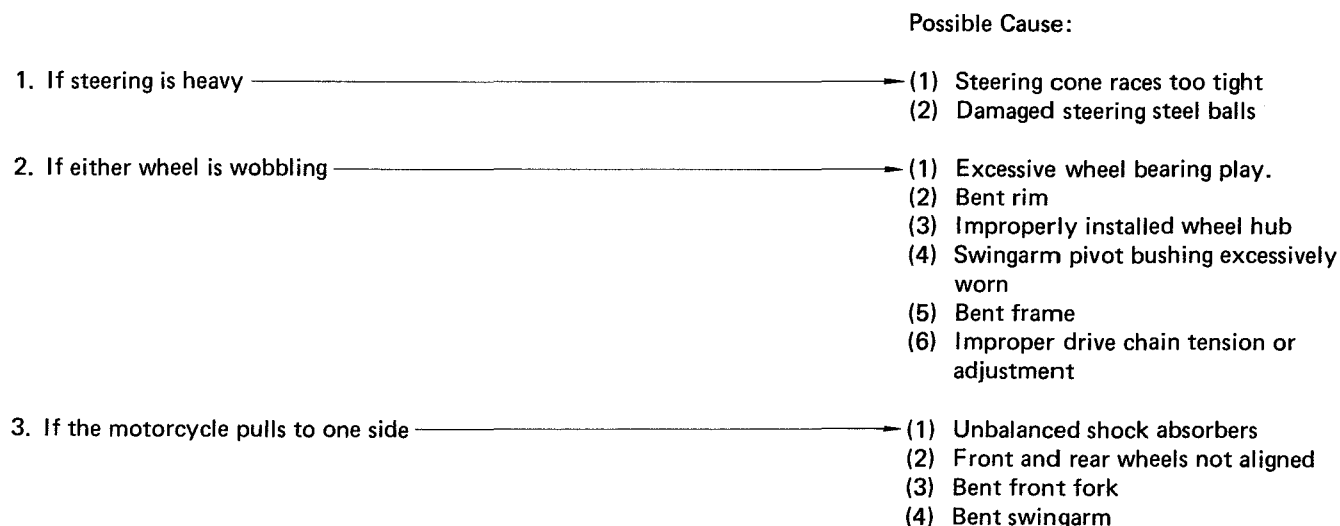




POOR PERFORMANCE AT HIGH SPEED



POOR HANDLING → Check tire pressures.





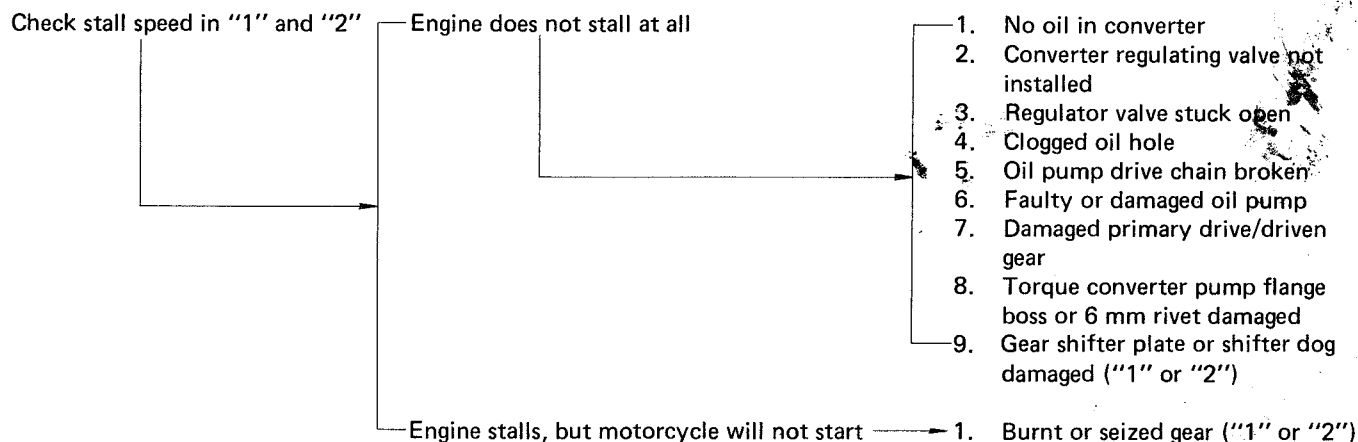
TROUBLESHOOTING

The following are symptoms and their probable causes for problems that are pertinent to the CM450A.

ENGINE RUNS NORMALLY; BUT MOTORCYCLE WILL NOT MOVE IN "1" AND "2"

INSPECTION

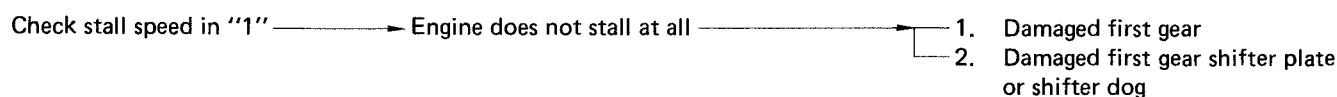
Probable Cause:



MOTORCYCLE CANNOT RUN IN "1"

INSPECTION

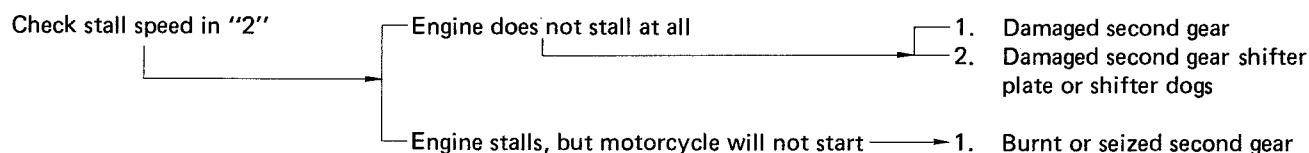
Probable Cause:



MOTORCYCLE CANNOT RUN IN "2"

INSPECTION

Probable Cause:



INTRODUCTION

This addendum contains service information for the 1982 CB450SC. Refer to the base shop manual for service information not included in this addendum.

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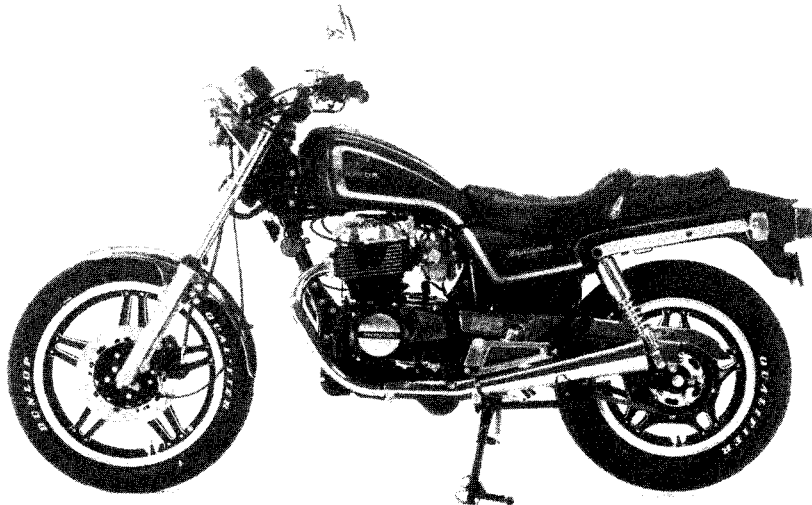
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SERVICE PUBLICATIONS OFFICE

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1. MODEL IDENTIFICATION



BEGINNING WITH F No. PC054*CM000005



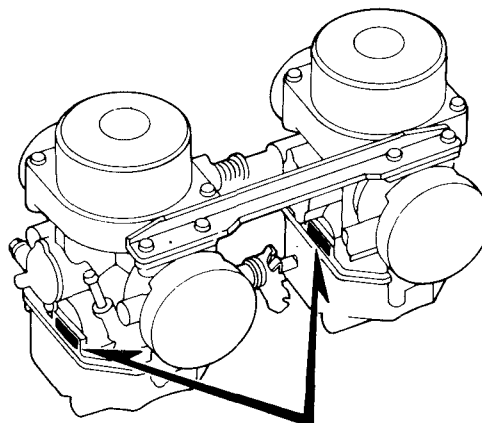
The frame serial number is stamped on the steering head right side.



The vehicle identification number (VIN) is on the steering head left side.



The engine serial number is stamped on top of the right crankcase.



IDENTIFICATION NUMBER

The carburetor identification number is on the carburetor body left side.

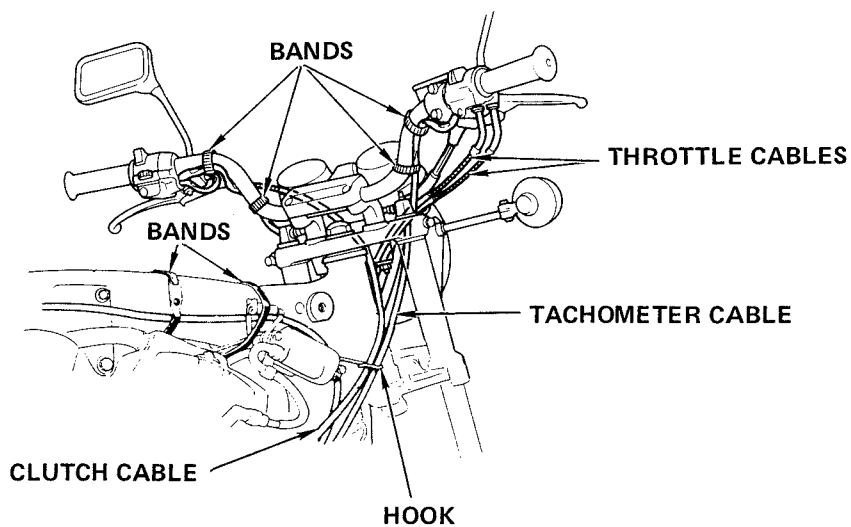
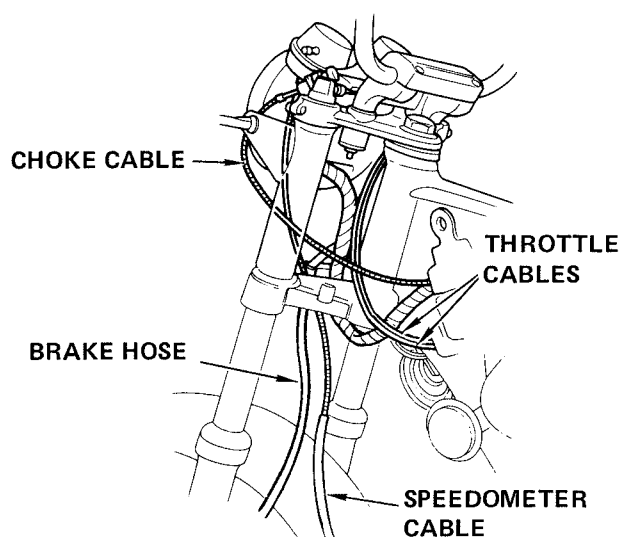
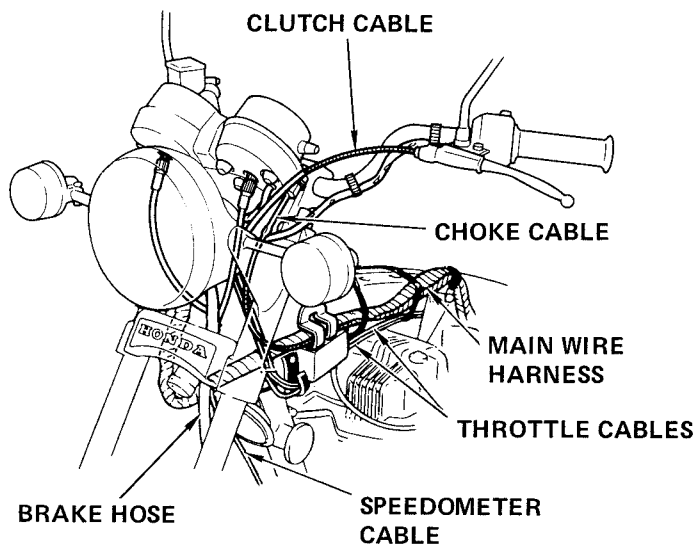
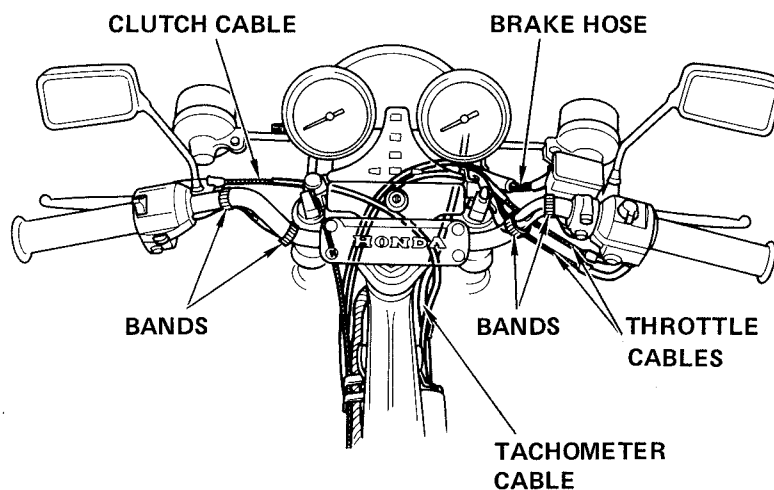
2. GENERAL INFORMATION

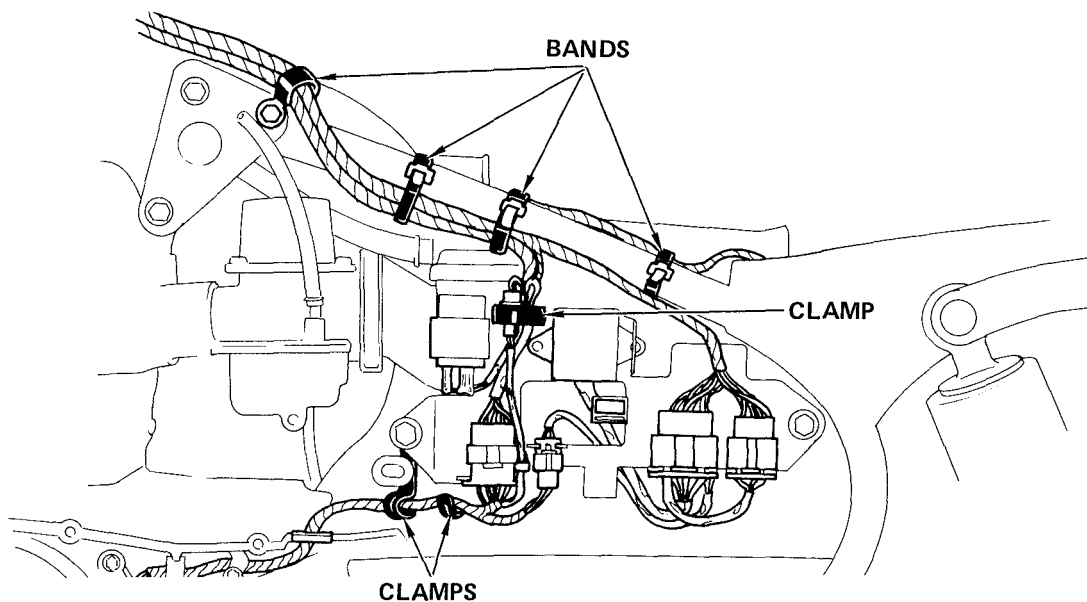
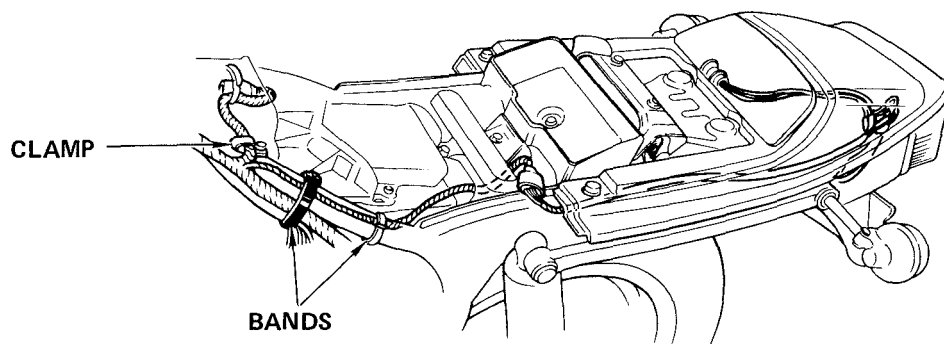
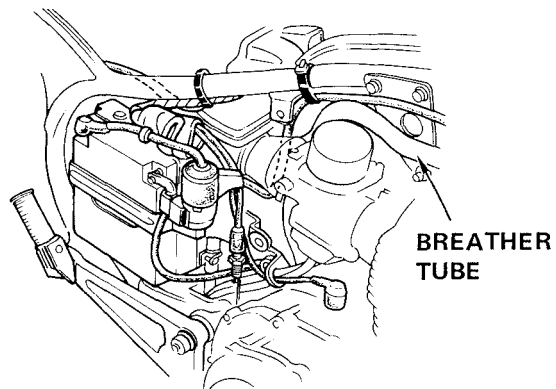
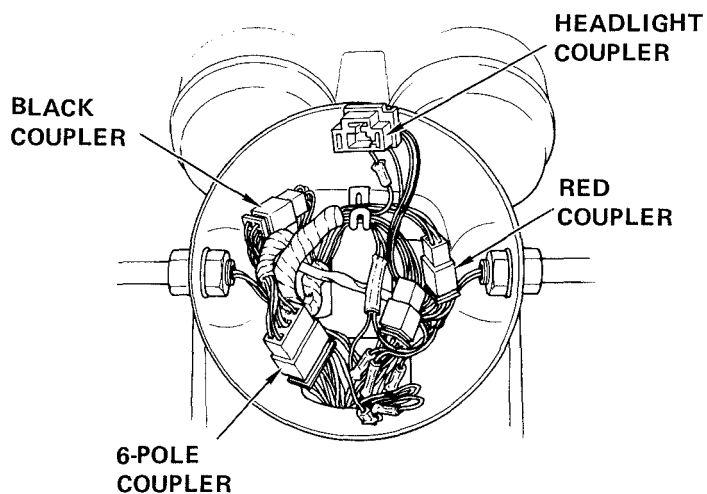
SPECIFICATIONS

	Item		Metric	English
Dimensions	Overall length		2,160 mm	85.0 in
	Overall width		785 mm	30.9 in
	Overall height		1,140 mm	44.9 in
	Wheel base		1,450 mm	57.1 in
	Seat height		785 mm	30.9 in
	Foot peg height	Right	330 mm	13.0 in
		Left	330 mm	13.0 in
	Ground clearance		170 mm	6.7 in
	Dry weight		178 kg	392 lbs
Frame	Type		Diamond Type	
	F. suspension and travel		Telescopic fork 140 mm (5.5 in)	
	R. suspension and travel		Swing arm, 100 mm (3.9 in)	
	F. tire size		3.25S19-4PR (Tubeless)	
	R. tire size		130/90-16 67S (Tubeless)	
	Cold tire pressures	Up to 90 kg (206 lbs.) load	Front	2.0 kg/cm ² 28 psi
			Rear	2.0/2.5 kg/cm ² 28/36 psi
	F. brake		Disc	
	R. brake		Internal expanding shoes	
	Fuel capacity		12.0 lit.	3.2 U.S. gal. 2.6 Imp gal
	Fuel reserve capacity		2.0 lit.	0.5 U.S. gal 0.4 Imp gal
	Caster angle		60 degrees	
	Trail length		130 mm	5.1 in
	Front fork oil capacity		190 ± 2.5 cc	6.4 ± 0.1 ozs
Engine	Type		Air cooled 4-stroke O.H.C. engine	
	Cylinder arrangement		Vertical twin parallel	
	Bore and stroke		75.0 x 50.6 mm	2.95 x 1.99 in
	Displacement		447 cc	27.3 cu-in
	Compression ratio		9.1:1	
	Valve train		Chain driven over head camshaft	
	Oil capacity		3.0 lit.	3.2 U.S. qt, 2.6 Imp. qt
	Lubrication system		Forced pressure and wet sump	
	Cylinder head compression pressure		13 ± 1.0 kg/cm ²	185 ± 14 psi
	Intake valve	Opens	91° BTDC (At 0 lift), 5° BTDC (At 1.0 mm lift)	
		Closes	57° ABDC (At 0 lift), 35° ABDC (At 1.0 mm lift)	
	Exhaust valve	Opens	87° BBDC (At 0 lift), 40° BBDC (At 1.0 mm lift)	
		Closes	87° ATDC (At 0 lift), 5° ATDC (At 1.0 mm lift)	
	Valve clearance (cold)	IN	0.10 mm	0.004 in
		EX	0.14 mm	0.006 in
	Idle speed		1,200 ± 100 rpm	

	Item		Metric	English
Carburetion	Carburetor type		CV type, 30 mm (1.18 in.) venturi bore	
	Setting number		VB22G	
	Pilot screw initial opening		2-1/2 turns out	
	Float level		15.5 mm	0.61 in
Drive train	Clutch		Wet multi-plate	
	Transmission		6-speed constant mesh	
	Primary reduction ratio		2.960:1	
	Gear ratio I		2.857:1	
	Gear ratio II		1.947:1	
	Gear ratio III		1.545:1	
	Gear ratio IV		1.280:1	
	Gear ratio V		1.074:1	
	Gear ratio VI		0.867:1	
	Final reduction ratio		2.118:1 (17/36)	
	Gear shift pattern		Left foot operated, 1-N-2-3-4-5-6	
Electrical	Ignition		Capacitive discharge ignition (CDI)	
	Ignition timing	"F" mark	15° BTDC at 1,200 rpm, idle speed	
		Full advance	43° BTDC \pm 2° at 4,500 to 5,350 rpm	
	Starting system		Starter motor	
	Alternator		170W/5,000 rpm	
	Battery capacity		12V, 12 ampere-hours	
	Spark plug		Standard	X24ESR-U (ND) DR8ES-L (NGK)
			For cold climate (Below 5°C, 41°F)	X22ESR-U (ND) DR7ES (NGK)
			For extended high speed riding	X27ESR-U (ND) DR8ES (NGK)
	Spark plug gap		0.6 ~ 0.7 mm	0.024 ~ 0.028 in
Lights	Headlight (low/high beam)		35/50 W	
	Tail/stop light		SAE NO. 1157	
	Turn signal light (front/rear)		SAE NO. F. 1034, R. 1073	
	Speedometer light		SAE NO. 57	
	Tachometer light		SAE NO. 57	
	Neutral indicator light		SAE NO. 57	
	Turn signal indicator light		SAE NO. 57	
	High beam indicator light		SAE NO. 57	
	Position light		SAE NO. 1034	
	Over drive indicator light		SAE NO. 57	

CABLE & HARNESS ROUTING





3. INSPECTION AND ADJUSTMENT

MAINTENANCE SCHEDULE

Perform the Pre-ride Inspection in the Owner's Manual at each scheduled maintenance period.

I : INSPECT AND CLEAN, ADJUST, LUBRICATE, OR REPLACE IF NECESSARY.

C : CLEAN

R : REPLACE

A : ADJUST

L : LUBRICATE

ITEM			FREQUENCY	WHICHEVER COMES FIRST ↓ EVERY	ODOMETER READING (NOTE 3)						Refer to page
					600mi (1,000km)	4,000mi (6,400km)	8,000mi (12,800km)	12,000mi (19,200km)	16,000mi (25,600km)	20,000mi (32,000km)	
EMISSION RELATED ITEMS	*	FUEL LINES			I	I	I	I	I		3-7
	*	FUEL STRAINER		C	C	C	C	C	C		3-7
	*	THROTTLE OPERATION		I	I	I	I	I	I		3-8
	*	CARBURETOR-CHOKE			I	I	I	I	I		3-8
		AIR CLEANER	NOTE 1		C	R	C	R	C		3-9
		CRANKCASE BREATHER	NOTE 2		C	C	C	C	C		3-11
		SPARK PLUGS			R	R	R	R	R		3-11
	*	VALVE CLEARANCE		I	I	I	I	I	I		3-12
		ENGINE OIL	YEAR	R	REPLACE EVERY 2,000 mi (3,200 km)						2-3
		ENGINE OIL FILTER	YEAR	R	R	R	R	R	R		2-3
	**	BALANCER CHAIN TENSION					A				3-12
	*	CAM CHAIN TENSION		A	A	A	A	A	A		3-14
	*	CARBURETOR-SYNCHRONIZE		I	I	I	I	I	I		3-15
*	CARBURETOR-IDLE SPEED		I	I	I	I	I	I		3-16	
NON-EMISSION RELATED ITEMS		DRIVE CHAIN		I, L EVERY 300 mi (500 km)							24-9
		BATTERY	MONTH	I	I	I	I	I	I		3-19
		BRAKE FLUID (FRONT)	MONTH I 2 YEARS *R	I	I	I	*R	I	I		3-19
		BRAKE SHOE/PAD WEAR			I	I	I	I	I		3-19
		BRAKE SYSTEM		I	I	I	I	I	I		3-20
	*	BRAKE LIGHT SWITCH		I	I	I	I	I	I		3-23
	*	HEADLIGHT AIM		I	I	I	I	I	I		3-23
		CLUTCH		I	I	I	I	I	I		3-24
		SIDE STAND			I	I	I	I	I		3-25
	*	SUSPENSION		I	I	I	I	I	I		24-10
	*	NUTS, BOLTS, FASTENERS		I	I	I	I	I	I		3-27
	**	WHEELS		I	I	I	I	I	I		3-27
	**	STEERING HEAD BEARING		I		I		I			3-28

*SHOULD BE SERVICED BY AN AUTHORIZED HONDA DEALER, UNLESS THE OWNER HAS PROPER TOOLS AND SERVICE DATA AND IS MECHANICALLY QUALIFIED.

**IN THE INTEREST OF SAFETY, WE RECOMMEND THESE ITEMS BE SERVICED ONLY BY AN AUTHORIZED HONDA DEALER.

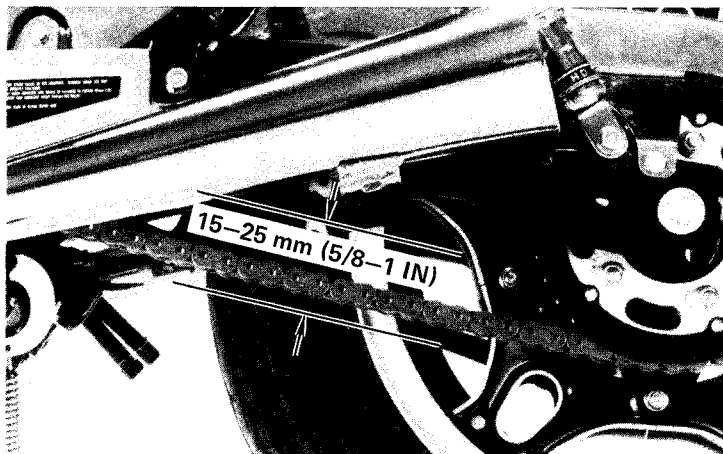
NOTES: 1. Service more frequently when riding in dusty areas.
2. Service more frequently when riding in rain or at full throttle.
3. For higher odometer readings, repeat at the frequency interval established here.

DRIVE CHAIN

Place the motorcycle on its center stand (or a support block) and shift the transmission into neutral.

Check the slack in the lower drive chain run midway between the sprockets.

STANDARD SLACK: 15–25 mm (5/8–1 in)



Adjust as follows:

Loosen the rear axle nut and adjusting bolt lock nuts. Turn the adjusting bolts an equal number of turns until the correct drive chain slack is obtained.

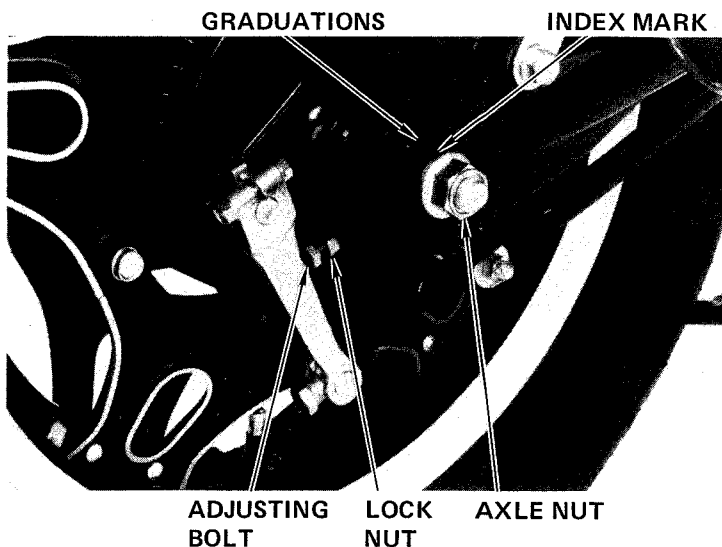
NOTE

Be sure the index marks of the adjusters align with the same graduation on both sides of the swing-arm.

Tighten the axle nut.

TORQUE: 70-100 N·m (7.0-10.0 kg·m, 51-72 ft·lb)

Tighten the lock nuts.

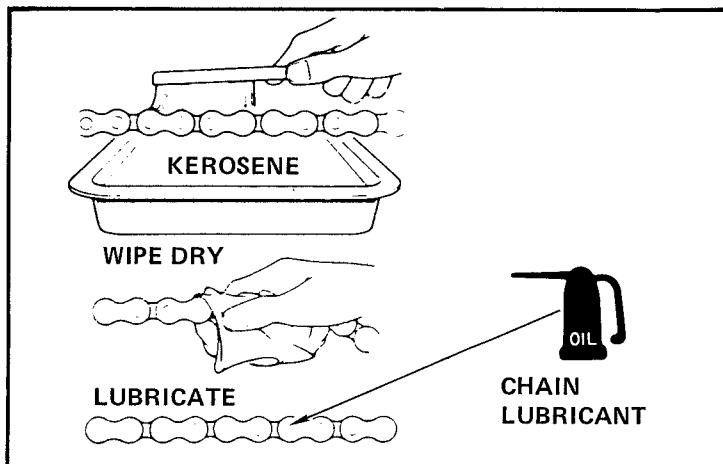


Clean the drive chain with kerosene and wipe dry.

Lubricate the drive chain with SAE 80 or 90 gear oil.

NOTE

Clean the chain with kerosene. Wipe dry and lubricate only with SAE 80 or 90 gear oil. Do not clean the chain with a steam cleaner or solvents.

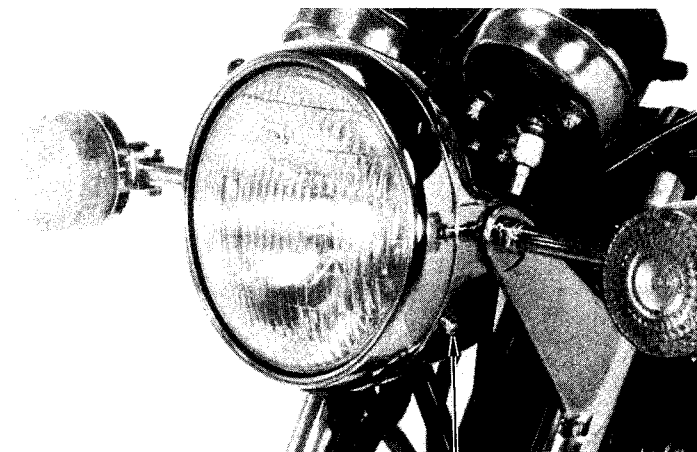


4. INSTRUMENTS/HANDLEBAR

INSTRUMENT/COMBINATION LOCK REMOVAL

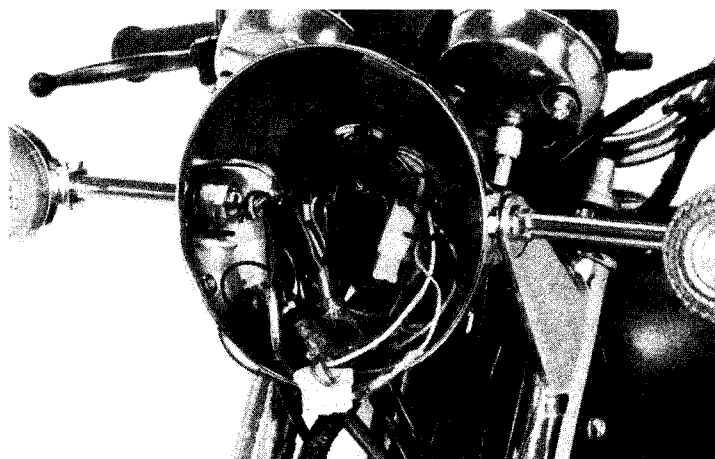
Remove the two headlight mounting screws and re-
move the headlight.

Disconnect the headlight wire coupler.



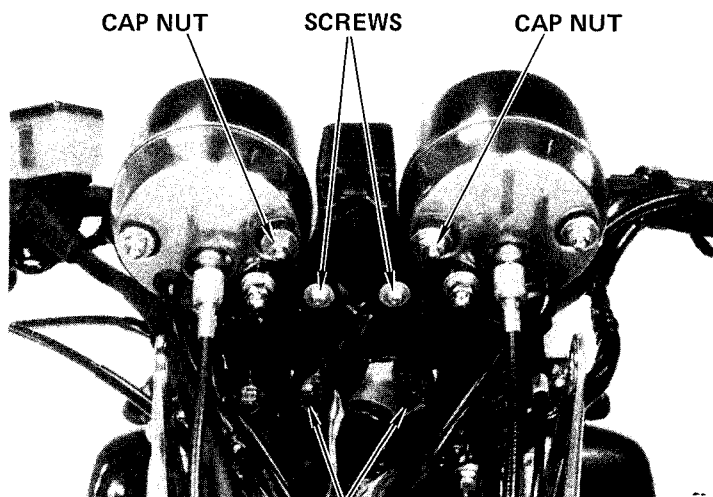
MOUNTING SCREW

Disconnect all wires at their couplers and connectors.



Remove the combination lock by removing its two
mounting bolts.

Remove the instrument panel by removing the two
screws and cap nuts.

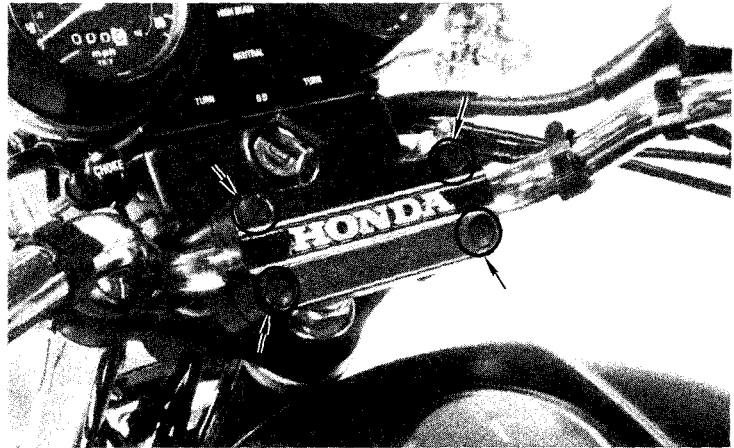


BOLTS

HANDLEBAR

REMOVAL

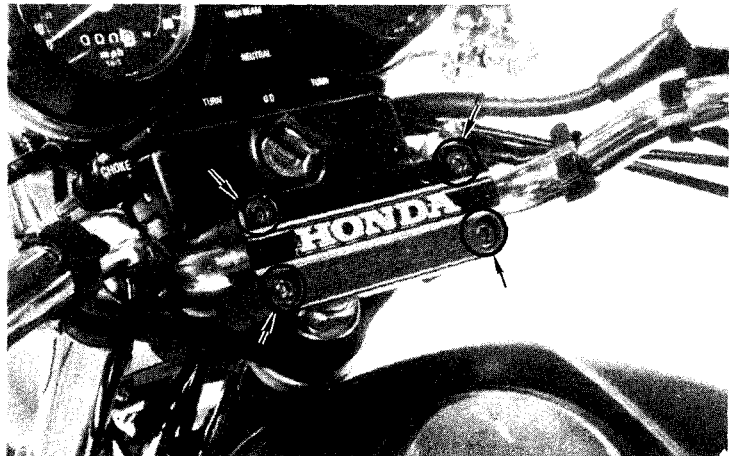
Remove the handlebar upper holder bolt caps.



Remove the wire bands from the handlebars.

Remove both handlebar switches.

Remove the handlebar upper holder bolts and the handlebar.



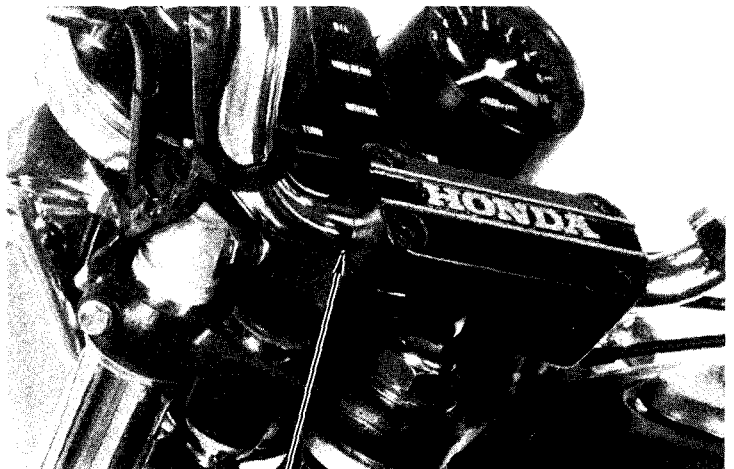
INSTALLATION

Place the handlebar on the lower holder, aligning the punch mark with the upper surface of the lower holder.

TORQUE: 18-25 N-m (1.8-2.5 kg-m, 13-18 ft-lb)

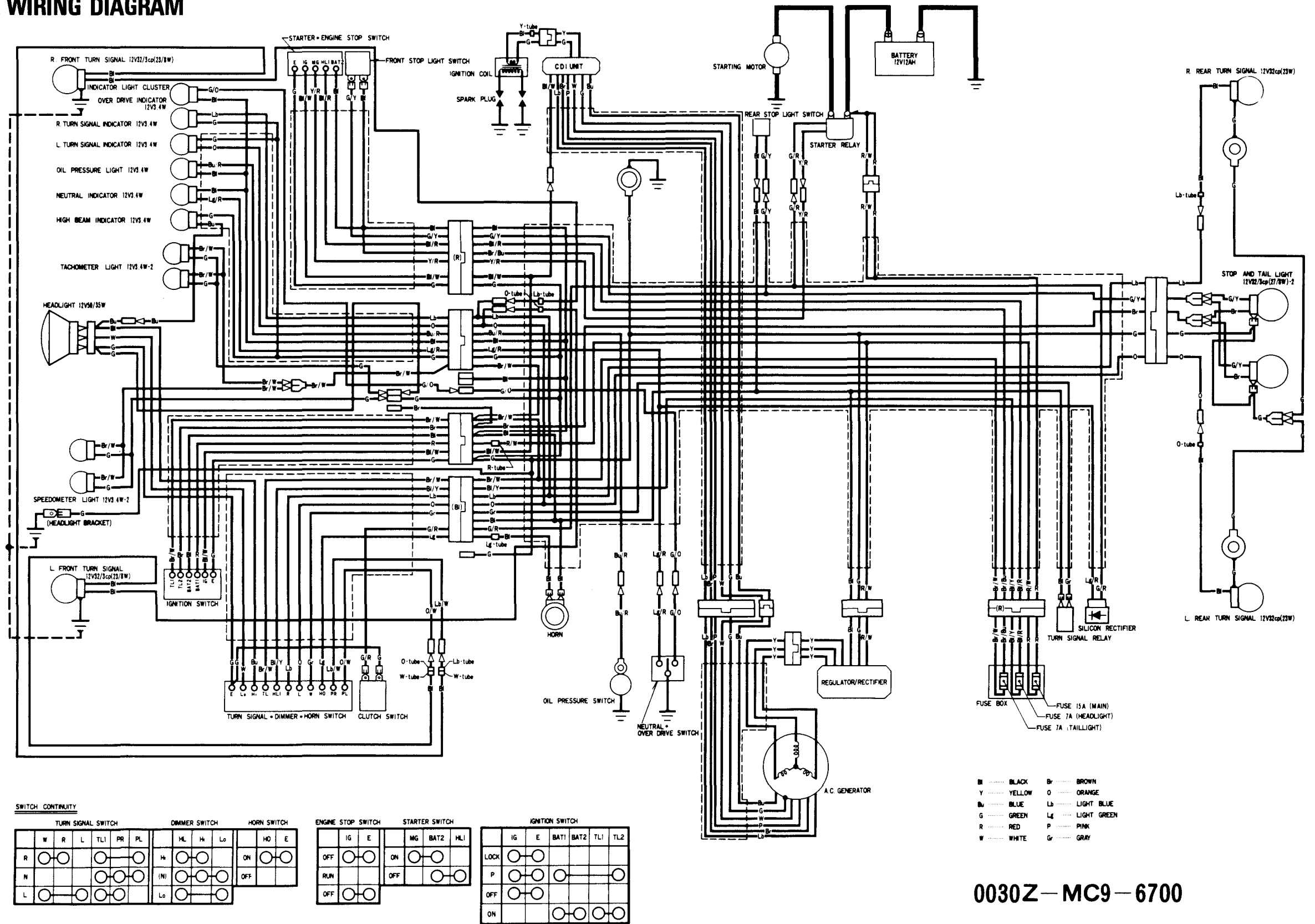
Install the switches and wire bands.

Insert the holder bolt caps into the upper holder.



PUNCH MARK

5. WIRING DIAGRAM



0030Z-MC9-6700



INTRODUCTION

This addendum contains service information for the 1983 CB/CM450's.

Refer to the base shop manual for service information not included in this addendum.

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1. CB450C SPECIFICATIONS 25-2
2. CM450A/CM450E
SPECIFICATIONS 25-4



1. CB450SC SPECIFICATIONS

ITEM			
DIMENSIONS	Overall length		2,160 mm (85.0 in)
	Overall width		785 mm (30.9 in)
	Overall height		1,140 mm (44.9 in)
	Wheel base		1,450 mm (57.1 in)
	Seat height		785 mm (30.9 in)
	Foot peg height		330 mm (13.0 in)
	Ground clearance		170 mm (6.7 in)
	Dry weight		178 kg (392 lbs)
FRAME	Type		Diamond Type
	Front suspension and travel		Telescopic fork, 140 mm (5.5 in)
	Rear suspension and travel		Swing arm, 100 mm (3.9 in)
	Front tire size		3.25S19—4PR (Tubeless)
	Rear tire size		130/90—16 67S (Tubeless)
	Cold tire pressures	Up to 90 kg (200 lbs) load	Front 200 kPa (2.0 kg/cm ² , 28 psi)
			Rear 200 kPa (2.0 kg/cm ² , 28 psi)
		Up to vehicle capacity load	Front 200 kPa (2.0 kg/cm ² , 28 psi)
			Rear 250 kPa (2.5 kg/cm ² , 36 psi)
	Front brake		Disc
	Rear brake		Internal expanding shoes
	Fuel capacity		12.0 liters (3.2 U.S. gallons)
	Fuel reserve capacity		2.0 liters (0.5 U.S. gallons)
	Caster angle		60°00'
	Trail length		130 mm (5.1 in)
ENGINE	* Front fork oil capacity		185 ± 2.5 cc (6.26 ± 0.1 oz)
	Type		Air cooled 4-stroke O.H.C. engine
	Cylinder arrangement		Vertical twin parallel
	Bore and stroke		75.0 x 50.6 mm (2.95 x 1.99 in)
	Displacement		447 cc (27.3 cu-in)
	* Compression ratio		9.3:1
	Valve train		Chain driven overhead camshaft
	Oil capacity		3.0 liters (3.2 U.S. quarts)
	Lubrication system		Forced pressure and wet sump
	Cylinder head compression pressure		13 ± 1.0 kg/cm ² (185 ± 14 psi)
	Intake valve	Opens	91° BTDC (At 0 lift), 5° BTDC (At 1.0 mm lift)
		Closes	57° ABDC (At 0 lift), 35° ABDC (At 1.0 mm lift)
	Exhaust valve	Opens	87° BBDC (At 0 lift), 40° BBDC (At 1.0 mm lift)
		Closes	87° ATDC (At 0 lift), 5° ATDC (At 1.0 mm lift)
	Valve clearance (cold)	IN	0.10 mm (0.004 in)
		EX	0.14 mm (0.006 in)
	Idle speed		1,200 ± 100 rpm
CARBURETION	* Carburetor type		CV type, 30 mm (1.18 in) venturi bore
	Identification number		VB22N
	Pilot screw initial opening		2-1/2 turns out
	Float level		15.5 mm (0.61 in)

*New specification for 1983.



ITEM		
DRIVE TRAIN	Clutch	Wet multi-plate
	Transmission	6-speed constant mesh
	Primary reduction ratio	2.960:1
	Gear ratio I	2.857:1
	II	1.947:1
	III	1.545:1
	IV	1.280:1
	V	1.074:1
	VI	0.867:1
	Final reduction ratio	2.118:1 (17/36)
	Gear shift pattern	Left foot operated, 1-N-2-3-4-5-6
ELECTRICAL	Ignition	Capacitive discharge ignition (CDI)
	Ignition timing	"F" mark 15° BTDC at 1,200 rpm, idle speed
		Full advance 43° BTDC \pm 2° 4,500 to 5,350 rpm
	Starting system	Starter motor
	Alternator	170W/5,000 rpm
	Battery capacity	12V, 12 ampere-hours
	* Spark plug	
	Standard	X24EPR-U9 (ND), DPR8EA-9 (NGK)
	For cold climate (below 5°C, 41°F)	X22EPR-U9 (ND), DPR7EA-9 (NGK)
	For extended high speed riding	X27EPR-U9 (ND), DPR9EA-9 (NGK)
	Spark plug gap	0.8—0.9 mm (0.032—0.036 in)
LIGHTS	Headlight (low/high beam)	35/50W
	Tail/stop light	3/32 cp SAE NO. 1157
	Turn signal light (front/rear)	32/32 cp SAE NO. F. 1034, R. 1073
	Speedometer light	2 cp SAE NO. 57
	Tachometer light	2 cp SAE NO. 57
	Neutral indicator light	2 cp SAE NO. 57
	Turn signal indicator light	2 cp SAE NO. 57
	High beam indicator light	2 cp SAE NO. 57
	Position light	3 cp SAE NO. 1034
	Overdrive indicator light	2 cp SAE NO. 57

*New specification for 1983.



2. CM450A/CM450E SPECIFICATIONS

ITEM			CM450A	CM450E
DIMENSIONS	Overall length		2,145 mm (84.4 in)	2,110 mm (83.1 in)
	Overall width		855 mm (33.7 in)	←
	**	Overall height	1,180 mm (46.5 in)	1,120 mm (44.1 in)
	**	Wheel base	1,450 mm (57.1 in)	1,420 mm (55.9 in)
	**	Seat height	775 mm (30.5 in)	765 mm (30.1 in)
	Foot peg height		325 mm (12.8 in)	310 mm (12.2 in)
	**	Ground clearance	155 mm (6.1 in)	150 mm (5.9 in)
	**	Dry weight	177 kg (390.2 lbs)	171 kg (377.5 lbs)
FRAME	Type		Diamond	←
	Front suspension and travel		Telescopic fork, 140 mm (5.5 in) Semi air suspension	Telescopic fork, 140 mm (5.5 in)
	Rear suspension and travel		Swing arm, 75.9 mm (3 in)	←
	Front tire size		3.50S18—4PR (Tubeless)	3.50S18—4PR (Tube type)
	Rear tire size		4.60S16—4PR (Tubeless)	4.60S16—4PR (Tube type)
	Cold tire pressures	Up to 90 kg (200 lbs) load	Front 200 kPa (2.0 kg/cm ² , 28 psi)	175 kPa (1.75 kg/cm ² , 24 psi)
			Rear 200 kPa (2.0 kg/cm ² , 28 psi)	←
		Up to vehicle capacity load	Front 200 kPa (2.0 kg/cm ² , 28 psi)	175 kPa (1.75 kg/cm ² , 24 psi)
			Rear 250 kPa (2.5 kg/cm ² , 36 psi)	←
	Front brake		Disc brake	Internal expanding shoes
	Rear brake		Internal expanding shoes	←
	Fuel capacity		13 liters (3.4 U.S. gallons)	←
	Fuel reserve capacity		2.0 liters (0.50 U.S. gallons)	←
	Caster angle		59°00'	61°00'
	Trail length		114 mm (4.5 in)	108 mm (4.25 in)
	Front fork oil capacity (at assembly)		220 cc (7.4 oz)	135 cc (4.6 oz)
ENGINE	Type		Air cooled 4-stroke O.H.C. engine	←
	Cylinder arrangement		Vertical twin parallel	←
	Bore and stroke		75 x 50.6 mm (2.95 x 1.99 in)	←
	Displacement		447 cc (27.3 cu-in)	←
	* Compression ratio		9.3:1	←
	Valve train		Chain driven OHC	←
	Oil capacity		3.3 liters (3.5 U.S. quarts)	3.0 liters (3.2 U.S. quarts)
	Lubrication system		Forced pressure and wet sump	←
	Cylinder head compression pressure		1,270 ± 98 kPa (13 ± 1 kg/cm ² , 185 ± 14 psi)	←
	Intake valve	Opens	5° ATDC (At 1.0 mm lift), 39° BTDC (At 0 lift)	5° BTDC (At 1.0 mm lift), 57° BTDC at 0 lift)
		Closes	30° ABDC (At 1.0 mm lift), 74° ABDC (At 0 lift)	35° ABDC (At 1.0 mm lift) 87° ABDC (At 0 lift)
	Exhaust valve	Opens	40° BBDC (At 1.0 mm lift), 94° BBDC (At 0 lift)	40° BBDC (At 1.0 mm lift), 90° BBDC (At 0 lift)
		Closes	5° ATDC (At 1.0 mm lift) 49° ATDC (At 0 lift)	5° ATDC (At 1.0 mm lift) 55° ATDC (At 0 lift)
	Valve clearance (cold)	IN	0.10 mm (0.004 in)	←
		EX	0.14 mm (0.006 in)	←
	Idle speed		1,250 ± 100 rpm	1,200 ± 100 rpm

*New specification for 1983.

**New specification for 1983 CM450E only.



ITEM		CM450A	CM450E
CARBURETION **	Carburetor type	CV, 28 mm (1.10 in)	CV, 30 mm (1.18 in)
	Identification number	VB24E	VB22Q
	Pilot screw initial setting	See page 4-12	See page 4-12
	Float level	15.5 mm (0.61 in)	←
DRIVE TRAIN	Clutch	←	Wet multi-plate
	Transmission	2-speed semi-automatic transmission with torque converter	6-speed constant mesh
	Primary reduction ratio	1.463:1	2.960:1
	Gear ratio I	2.923:1	2.857:1
	II	2.059:1	1.947:1
	III	←	1.545:1
	IV	←	1.280:1
	V	←	1.074:1
	VI	←	0.867:1
	Final reduction ratio	2.000:1	←
	Gearshift pattern	Left foot operated return system	←
ELECTRICAL	Ignition		Capacitive discharge ignition
	Ignition timing	"FN" mark	7.5° BTDC at 1,250 rpm idle speed (Transmission in neutral)
		"F" mark	15° BTDC at 1,250 rpm idle speed (Transmission in gear)
		Full advance	43° BTDC ± 2° at 4,500 to 5,350 rpm
	Starting system		Starter motor and kick starter
	Alternator		A.C. generator, 170W/5,000 rpm
	Battery capacity		12 V, 12 AH
	Spark plug		←
	Standard		X24EPR-U9 (ND), DPR8EA-9 (NGK)
	For cold climate (Below 5°C, 41°F)		X22EPR-U9 (ND), DPR7EA-9 (NGK)
	For extended high speed driving		X27EPR-U9 (ND), DPR9EA-9 (NGK)
	Spark plug gap		0.8—0.9 mm (0.032—0.036 in)
LIGHTS	Headlight (low/high beam)		35/50W
	Tail/stoplight		3/32 cp SAE NO. 1157
	Turn signal light (Front/rear)		32/32 cp SAE NO. F. 1034 R. 1073
	Speedometer light		2 cp SAE NO. 57
	Parking brake warning light		2 cp SAE NO. 57
	Turn signal indicator light		2 cp SAE NO. 57
	High beam indicator light		2 cp SAE NO. 57
	Position light		3 cp SAE NO. 1034
	Neutral indicator light		2 cp SAE NO. 57
	Shift position light (2)		2 cp SAE NO. 57
	Oil pressure light		2 cp SAE NO. 57
	Overdrive indicator light		←
			2 cp SAE NO. 57

*New specification for 1983.

**New specification for 1983 CM450E only.



INTRODUCTION

This Addendum contains service information for the '85 CB450SC. Refer to the base shop manual and previous addendums for service information not included in this addendum.

NOTE

There were no 1984 CB/CM450 models manufactured.

All information, illustrations, directions and specifications included in this publication are based on the latest product information available at the time of approval for printing. Honda Motor Co., Ltd. reserves the right to make changes at any time without notice and without incurring any obligation whatever.

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HONDA MOTOR CO., LTD.
Service Publications Office

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1. GENERAL INFORMATION

SPECIFICATIONS

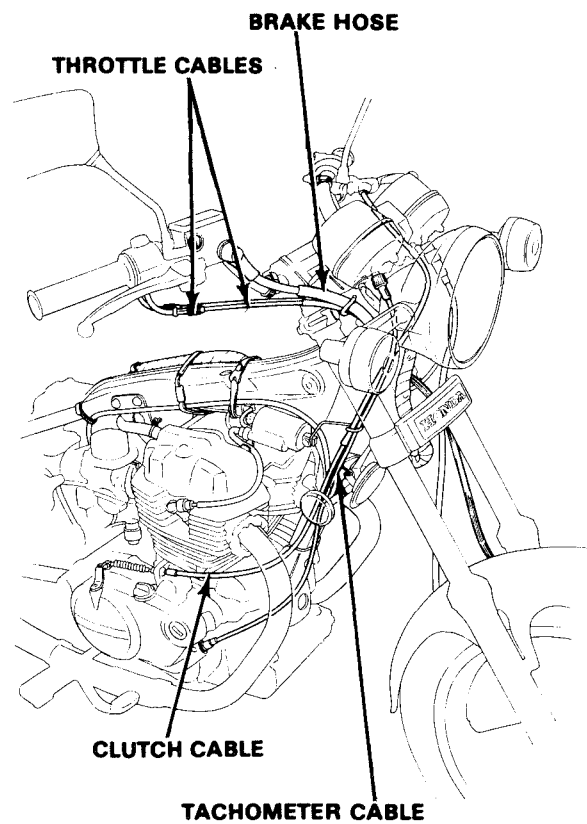
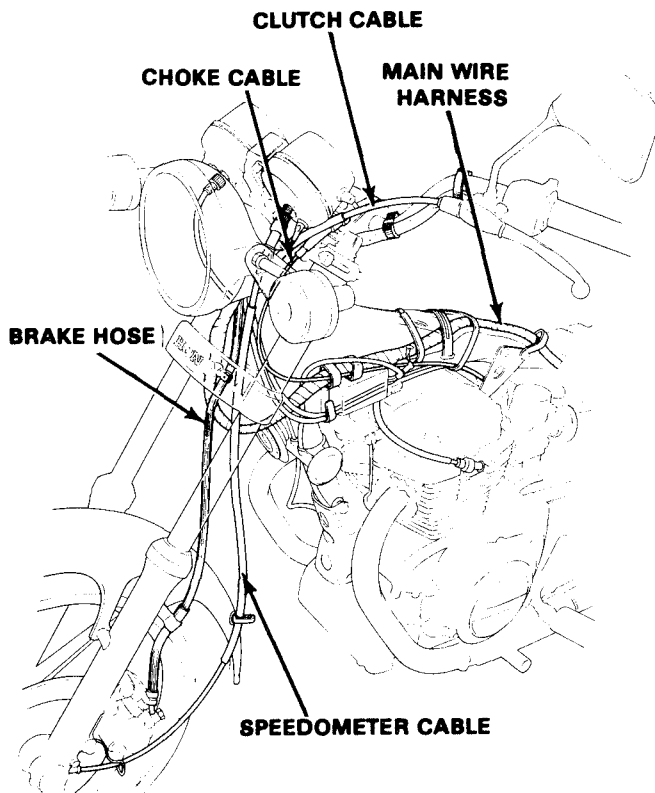
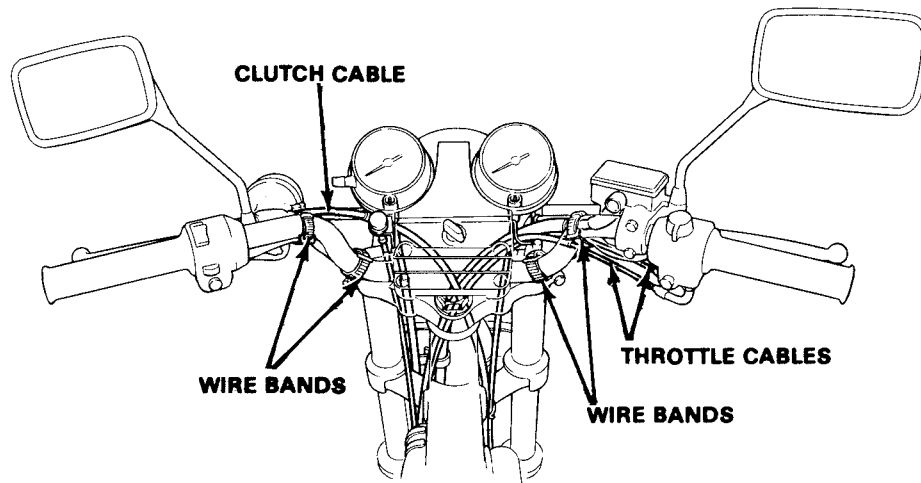
ITEM			DESCRIPTION
DIMENSIONS	Overall length		2,160 mm (85.0 in)
	Overall width		785 mm (30.9 in)
	Overall height		1,140 mm (44.9 in)
	Wheel base		1,450 mm (57.1 in)
	Seat height		785 mm (30.9 in)
	Foot peg height		330 mm (13.0 in)
	Ground clearance		170 mm (6.7 in)
	Dry weight		178 kg (392 lbs)
FRAME	Type		Diamond Type
	Front suspension and travel		Telescopic fork, 140 mm (5.5 in)
	Rear suspension and travel		Swing arm, 100 mm (3.9 in)
	* Front tire size		100/90—19 575
	* Rear tire size		130/90—16 675
	Cold tire pressures	Up to 90 kg (200 lbs) load	Front 200 kPa (2.0 kg/cm ² , 28 psi)
			Rear 200 kPa (2.0 kg/cm ² , 28 psi)
		Up to vehicle capacity load	Front 200 kPa (2.0 kg/cm ² , 28 psi)
			Rear 250 kPa (2.5 kg/cm ² , 36 psi)
	Front brake		Single disc brake 434 cm ² (67.3 in ²)
	Rear brake		Drum brake 176 cm ² (27.3 in ²)
	Fuel capacity		12.0 liters (3.2 U.S. gallons)
	Fuel reserve capacity		2.0 liters (0.5 U.S. gallons)
	Caster angle		60°00'
	Trail length		130 mm (5.1 in)
	Front fork oil capacity		185 ± 2.5 cc (6.26 ± 0.1 oz)
ENGINE	Type		Air cooled 4-stroke
	Cylinder arrangement		Vertical twin parallel
	Bore and stroke		75.0 x 50.6 mm (2.95 x 1.99 in)
	Displacement		447 cc (27.3 cu in)
	Compression ratio		9.3:1
	Valve train		Chain driven O.H.C.
	Oil capacity		3.0 liters (3.2 U.S. quarts)
	Lubrication system		Forced pressure and wet sump
	Cylinder head compression pressure		13 ± 1.0 kg/cm ² (185 ± 14 psi)
	Intake valve	Opens	91° BTDC (At 0 lift), 5° BTDC (At 1.0 mm lift)
		Closes	57° ABDC (At 0 lift), 35° ABDC (At 1.0 mm lift)
	Exhaust valve	Opens	87° BBDC (At 0 lift), 40° BBDC (At 1.0 mm lift)
		Closes	87° ATDC (At 0 lift), 5° ATDC (At 1.0 mm lift)
	Valve clearance (cold)	IN	0.10 mm (0.004 in)
		EX	0.14 mm (0.006 in)
	Idle speed		1,200 ± 100 rpm
CARBURETION	Carburetor type		CV type, 30 mm (1.18 in) venturi bore
	Identification number		VB2EA (49 state) VB2FA (Calif.)
	Pilot screw initial opening		2½ turns out
	Float level		15.5 mm (0.61 in)

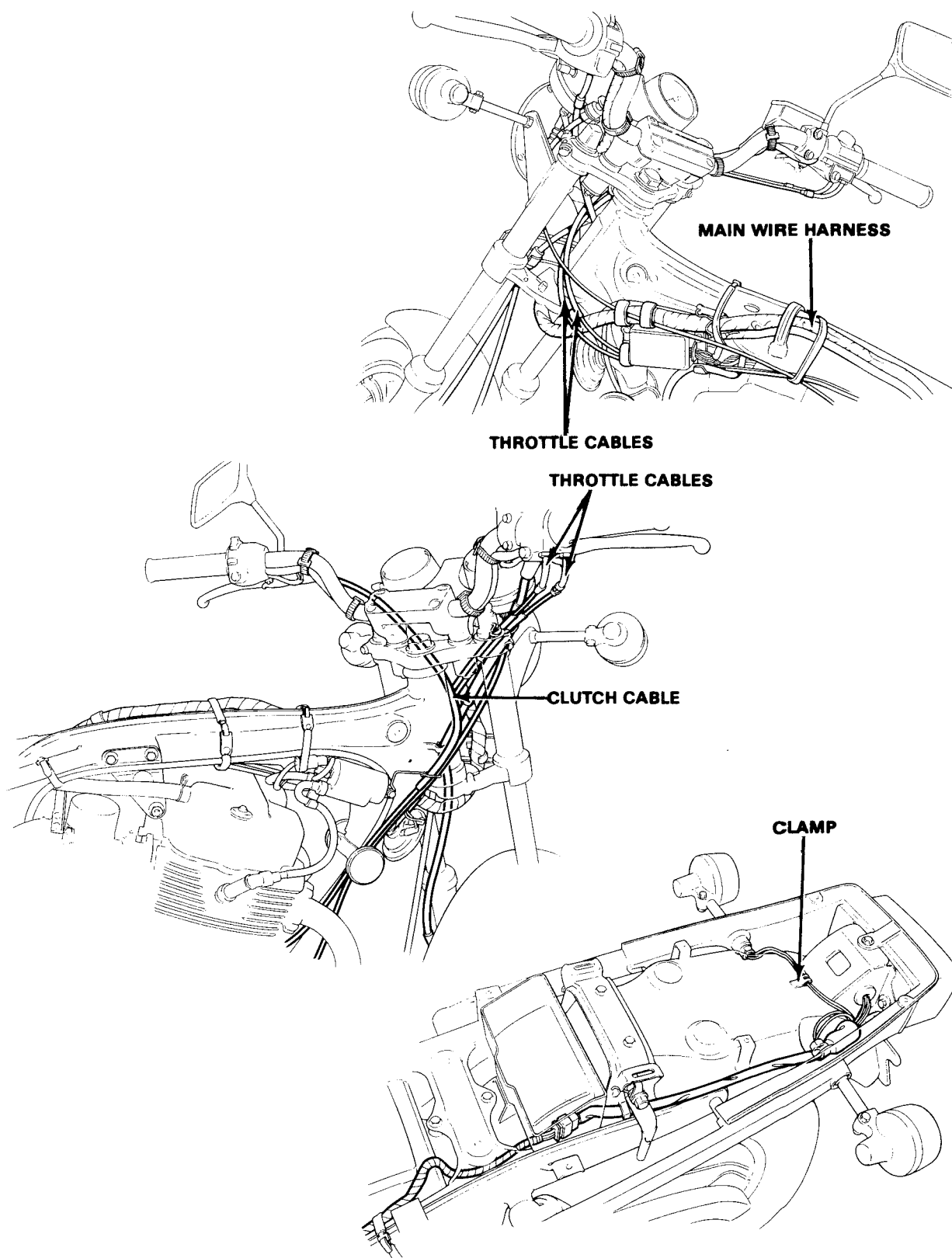
* New specification for 1985



ITEM		DESCRIPTION
DRIVE TRAIN	Clutch	Wet multi-plate
	Transmission	6-speed constant mesh
	Primary reduction ratio	2.960:1
	Gear ratio I	2.857:1
	II	1.947:1
	III	1.545:1
	IV	1.280:1
	V	1.074:1
	VI	0.867:1
	Final reduction ratio	2.118:1 (17/36)
ELECTRICAL	Gear shift pattern	Left foot operated, 1-N-2-3-4-5-6
	Ignition	Capacitive Discharge Ignition
	Ignition timing	"F" mark
		Full advance
	Starting system	Starter motor
	Alternator	170W/5,000 rpm
	Battery capacity	12V, 12 ampere-hours
	Spark plug	X24EPR-U9 (ND), DPR8EA-9 (NGK)
	Standard	
	For cold climate (below 5°C, 41°F)	X22EPR-U9 (ND), DPR7EA-9 (NGK)
LIGHTS	For extended high speed riding	X27EPR-U9 (ND), DPR9EA-9 (NGK)
	Spark plug gap	0.8—0.9 mm (0.032—0.036 in)
	Headlight (low/high beam)	35/50W
	Tail/stop light	3/32 cp SAE NO. 1157
	Turn signal light (front/rear)	32/32 cp SAE NO. F. 1034, R. 1073
	Speedometer light	2 cp SAE NO. 57
	Tachometer light	2 cp SAE NO. 57
	Neutral indicator light	2 cp SAE NO. 57
	Turn signal indicator light	2 cp SAE NO. 57
	High beam indicator light	2 cp SAE NO. 57
	Position light	3 cp SAE NO. 1034
	Overdrive indicator light	2 cp SAE NO. 57

CABLE & HARNESS ROUTING





EMISSION CONTROL SYSTEMS

The U.S. Environmental Protection Agency and California Air Resources Board (CARB) require manufacturers to certify that their motorcycles comply with applicable exhaust emissions standards during their useful life, when operated and maintained according to the instructions provided, and that motorcycles built after January 1, 1983 comply with applicable noise emission standards for one year or 6,000 km (3,730 miles) after the time of sale to the ultimate purchaser, when operated and maintained according to the instructions provided. Compliance with the terms of the Distributor's Warranties for Honda Motorcycle Emission Control Systems is necessary in order to keep the emissions systems warranty in effect.

Source of Emissions

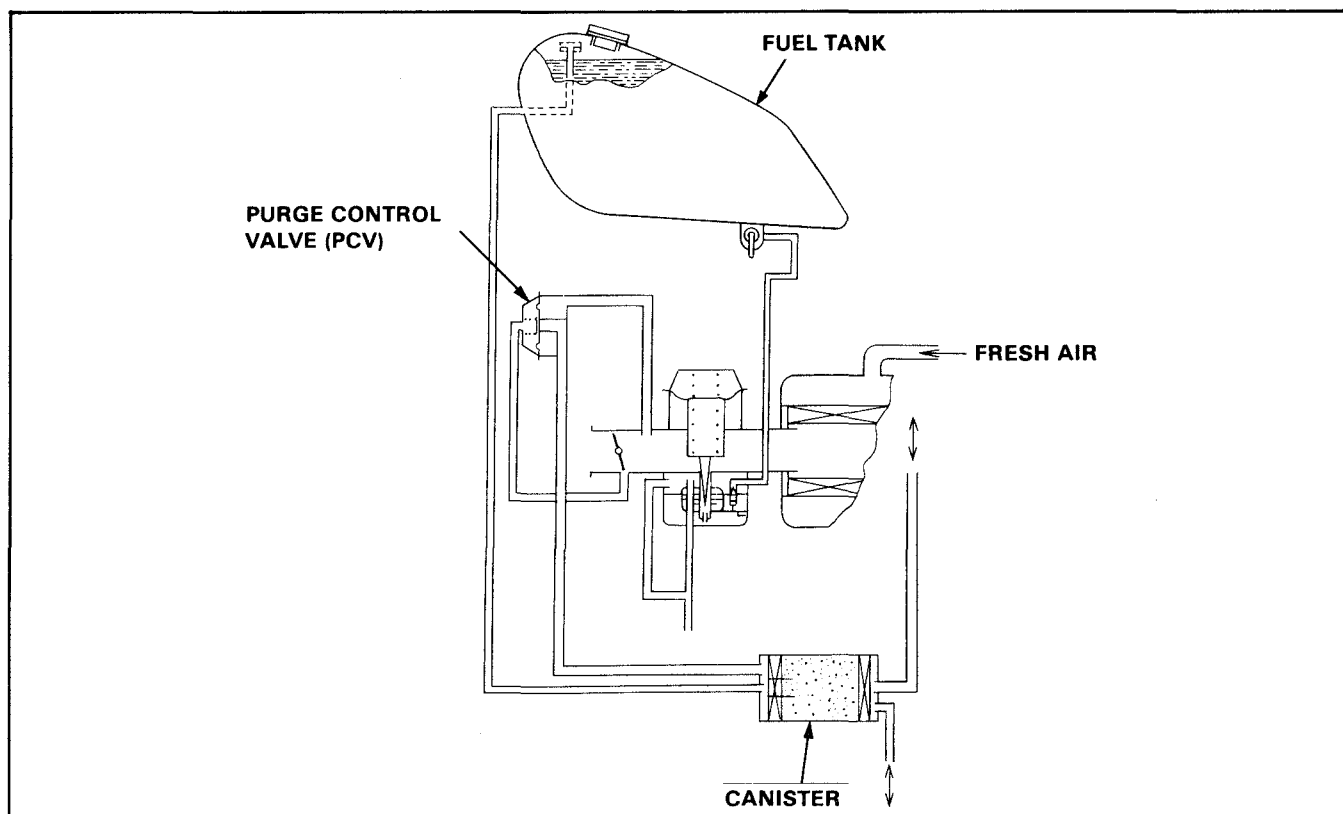
The combustion process produces carbon monoxide and hydrocarbons. Control of hydrocarbons is very important because, under certain conditions, they react to form photochemical smog when subjected to sunlight. Carbon monoxide does not react in the same way, but it is toxic.

Honda Motor Co., Ltd. utilizes lean carburetor settings as well as other systems, to reduce carbon monoxide and hydrocarbons.

Evaporative Emission Control System (California Model)

This model complies with California Air Resources Board requirements for evaporative emission regulations.

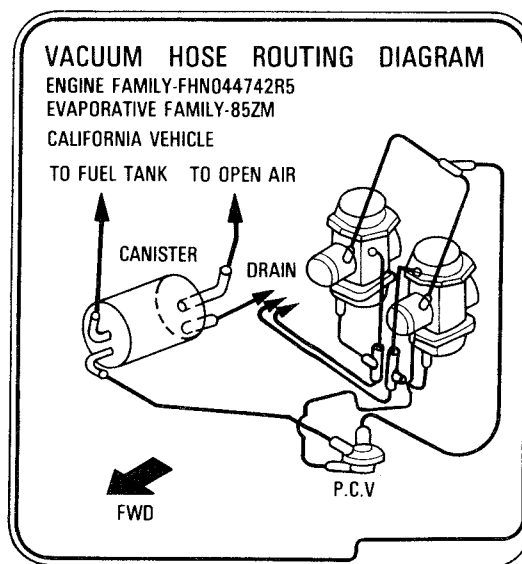
Fuel vapor from the fuel tank is routed into a charcoal canister where it is absorbed and stored while the engine is stopped. When the motorcycle is running and the purge control diaphragm valve is open, fuel vapor in the charcoal canister is drawn into the engine through the carburetor.





Vacuum Hose Routing Diagram Label

The Vacuum Hose Routing Diagram Label is attached to the inside of the left side cover.



Noise Emission Control System

TAMPERING WITH THE NOISE CONTROL SYSTEM IS PROHIBITED: Federal law prohibits the following acts or the causing thereof: (1) The removal or rendering inoperative by any person, other than for the purpose of maintenance, repair, or replacement, of any device or element of design incorporated into any new vehicle for the purpose of noise control prior to its sale or delivery to the ultimate purchaser or while it is in use; or (2) the use of the vehicle after such device or element of design has been removed or rendered inoperative by any person.

AMONG THOSE ACTS PRESUMED TO CONSTITUTE TAMPERING ARE THE ACTS LISTED BELOW:

1. Removal of, or puncturing the muffler, baffles, header pipes or any other component which conducts exhaust gases.
2. Removal of, or puncturing of any part of the intake system.
3. Lack of proper maintenance.
4. Replacing any moving parts of the vehicle, or parts of the exhaust or intake system, with parts other than those specified by the manufacturer.



2. INSPECTION AND ADJUSTMENT

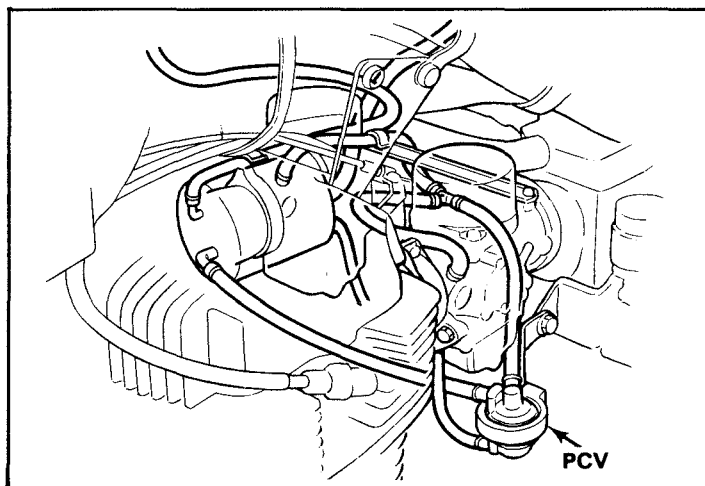
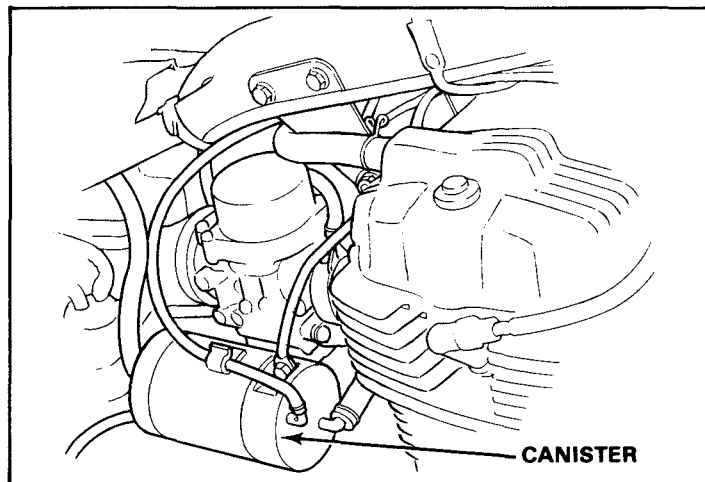
EVAPORATIVE EMISSION CONTROL SYSTEM (California Model)

Check all tubes to be sure they are securely connected and are not kinked or clogged. Replace any damaged or deteriorated tubes.

If a purge control valve problem is suspected, refer to test procedures on page 26-9.

NOTE

- Be careful not to bend, twist or kink the tubes when installing.
- Slide the end of each tube onto its fitting fully and secure with a tube clamp. Secure with tube clamps whenever specified.
- Replace the tubes with new ones if they show signs of deterioration or damage.
- After installing the carburetors, check that the tubes are not contacting sharp edges or corners.





3. FUEL SYSTEM

SPECIFICATIONS

	49 STATE MODEL	CALIFORNIA MODEL
Venturi diameter	30 mm (1.2 in)	←
Carburetor identification no.	VB2EA	VB2FA
Float level	15.5 mm (0.61 in)	←
Main jet	#125	←
Idle speed		
Throttle grip free play	2—6 mm (1/8—1/4 in)	←
Pilot screw initial opening	2 1/4 turns out	←
Slow jet	#38	←
High altitude adjustment (pilot screw)	1 3/4 turns out	←

TOOLS

DESCRIPTION	TOOL NUMBER	ALTERNATE TOOL
Pressure pump	ST-AH-255-MC7 (U.S.A.)	commercially available in U.S.A.
Vacuum pump	ST-AH-260-MC7 (U.S.A.)	commercially available in U.S.A.

PURGE CONTROL VALVE INSPECTION (California model)

NOTE

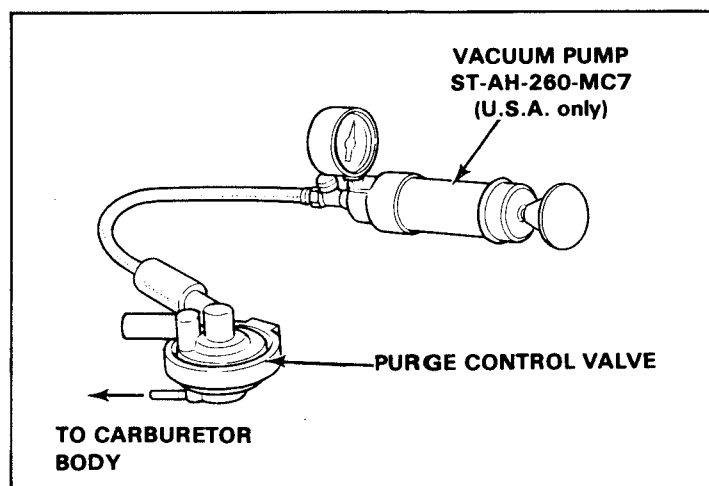
The purge control valve should be inspected if hot restart is difficult.

Check all fuel tank, Purge Control Valve (PCV), and charcoal canister hoses to be sure they are not kinked and are securely connected. Replace any hose that shows signs of damage or deterioration.

NOTE

The PCV is located on the left side of the cylinder head cover.

Disconnect the PCV hoses from their connections, and at the 3-way joint and remove the PCV from its mount. Refer to the routing label on the inside of the left side cover.



Connect a vacuum pump to the 8 mm I.D. hose that goes to the 3-way joint. Apply the specified vacuum to the PCV.

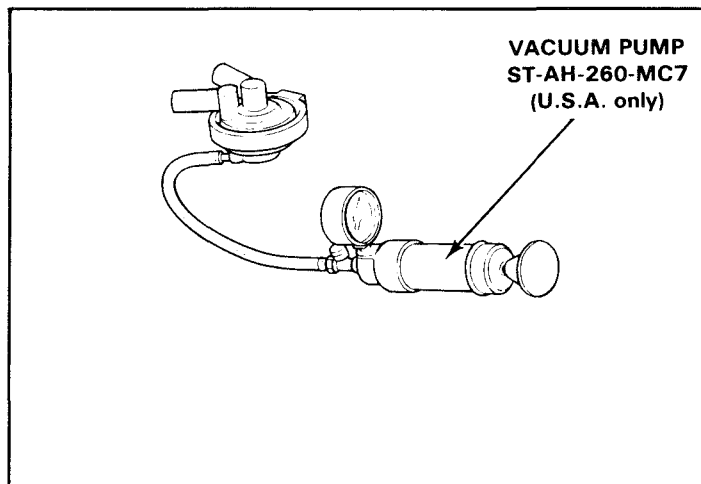
SPECIFIED VACUUM: 250 mm (9.8 in) Hg

The specified vacuum should be maintained. Replace the PCV if vacuum is not maintained.

Remove the vacuum pump and connect it to the hose that goes to the carburetor body. Apply the specified vacuum to the PCV.

SPECIFIED VACUUM: 250 mm (9.8 in) Hg

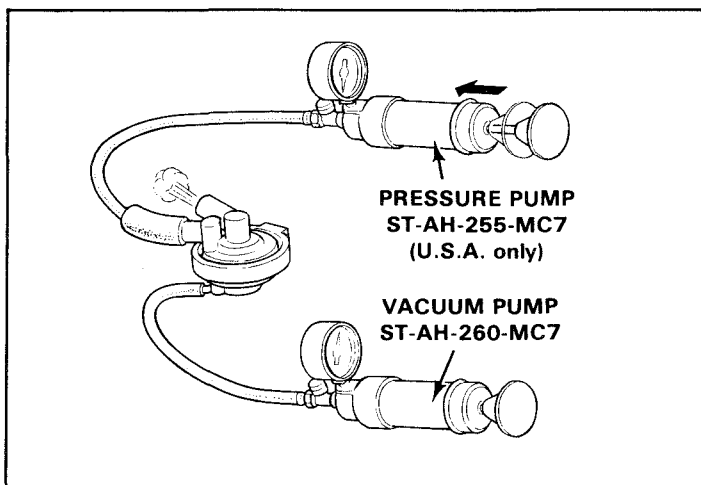
The specified vacuum should be maintained. Replace the PCV if vacuum is not maintained.



Connect a hand pressure pump to the 8 mm I.D. hose that goes to the charcoal canister. While applying the specified vacuum to the PCV hose that goes to the carburetor body, pump air through the canister hose. Air should flow through the PCV and out the hose that goes to the 3-way joint. Replace the PCV if air does not flow out.

CAUTION:

To prevent damage to the purge control valve, do not use high air pressure sources. Use a hand operated air pump only.



Remove the pumps, install the PCV on its mount, route and connect the hoses according to the routing label.



CB450SC/T #1
REVISED: OCTOBER, 1984

CB450SC — 1982 AND AFTER CB450T — 1982 REQUIRED SPECIAL TOOLS

(This supersedes CB450 #1, dated October, 1982. NOTE: There were no CB450 models for 1984.)

The tools listed below are required to service and maintain this model. They have already been introduced as required special tools for other models. If you do not already have these tools, they can be ordered using normal ordering procedures. If any new special tools are required, they will be shipped to you automatically. You must have these special tools or their approved equivalents in your dealership as per Paragraph 8.4, of the Honda Sales Agreement.

ENGINE TOOLS

INSPECTION/ADJUSTMENT

H/C	TOOL NUMBER	DESCRIPTION	APPLICABILITY
0934174	M2980-350-93417	Synchronization Wrench	Carburetor synchronization.
0479782	M937B-021-XXXXX	Carburetor Vacuum Gauge Kit	Carburetor synchronization.
0238923	07401-0010000	Carburetor Float Level Gauge	Float level inspection.

CYLINDER HEAD/PISTON

H/C	TOOL NUMBER	DESCRIPTION	APPLICABILITY
0915637	07742-0010100	Valve Guide Driver, 5.5 mm	Intake valve guide removal. Supersedes 07942-3290100, which can still be used.
0915645	07742-0020200	Valve Guide Driver	Intake valve guide installation. Supersedes 07942-3290200, which can still be used.
0688150	07757-0010000	Valve Spring Compressor	Valve removal/installation. Supersedes 07957-3290001, which can still be used.
0724906	07942-6570100	Valve Guide Driver, 6.6 mm	Exhaust valve guide removal/installation. Supersedes 07942-6110000, which can still be used.
0080127	*07954-2830000 (07955-4630000)	Piston Ring Compressor (2 Required)	Piston-cylinder installation.
0754200	07958-2500001	Piston Base	Support pistons, cylinder installation.
0302596	07984-2000000	Valve Guide Reamer, 5.5 mm	Intake valve guide I.D. sizing.
0724898	07984-6570100	Valve Guide Reamer, 6.6 mm	Exhaust valve guide I.D. sizing.

CLUTCH

H/C	TOOL NUMBER	DESCRIPTION	APPLICABILITY
1049154	07725-0030000	Universal Holder	Hold drive sprocket, assist clutch lock nut removal/installation (torquing). Hold rotor, assist primary drive gear bolt removal/installation (torquing).
1174002	07716-0020203	Lock Nut Wrench, 26 x 30 mm	Clutch lock nut removal/installation (torquing).

GENERATOR

H/C	TOOL NUMBER	DESCRIPTION	APPLICABILITY
1049154	07725-0030000	Universal Holder	Hold rotor, assist rotor bolt removal/installation (torquing).
0440917	*07933-3950000 (07733-0020001)	Rotor Puller	Flywheel removal.

* This tool is substituted for the tool in parenthesis. The tool in parenthesis is listed in the shop manual but is unavailable from American Honda Motor Co., Inc.

(over)

MST 3251-8013

ROUTING

Copy 1:



GENERAL MANAGER



PARTS MANAGER



TOOL CATALOG BINDER

Copy 2:



SERVICE MANAGER



SERVICE TECHNICIANS



SERVICE MANUAL BINDER

CHASSIS TOOLS

WHEEL/BRAKE			
H/C	TOOL NUMBER	DESCRIPTION	APPLICABILITY
0959817	07746-0010300	Attachment, 42 x 47 mm	Front wheel bearings #6302 and right rear wheel bearing #6303U installation.
0753483	07746-0010400	Attachment, 52 x 55 mm	Left rear wheel bearing #6304 installation.
0959882	07746-0040300	Pilot, 15 mm	Use with 07746-0010300 to install front wheel bearings.
0959890	07746-0040400	Pilot, 17 mm	Use with 07746-0010300 to install right rear wheel bearing.
0933242	07749-0010000	Driver	Use with attachments and pilots.
0418236	07914-3230001	Snap Ring Pliers	Master cylinder dis/assembly.

SUSPENSION/FRAME			
H/C	TOOL NUMBER	DESCRIPTION	APPLICABILITY
0647651	*07916-3710100 (07702-0010000)	Steering Stem Socket	Steering stem bearing adjuster nut removal/adjustment.
0312439	07945-3330300	Attachment	Lower steering race installation.
0298281	07946-3290000	Attachment	Upper steering race installation.
0933242	07749-0010000	Driver	Use with attachments to install the steering races.
1418212	07946-MB00000	Steering Stem Driver	Steering stem bearing installation. Supersedes 07946-3710601, which can still be used.
0298224	*07947-3290000 (07747-0010100, 07747-0010500)	Fork Seal Driver	Fork seal installation.
0312447	07953-3330000	Race Remover	Steering race removal.
0688168	07959-3290001	Rear Shock Absorber Spring Compressor	Rear shock absorber spring removal/installation.

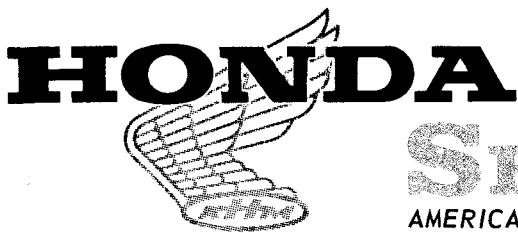
* This tool is substituted for the tool in parenthesis. The tool in parenthesis is listed in the shop manual but is unavailable from American Honda Motor Co., Inc.

SPECIAL INFORMATION

The tool listed below is necessary to service this model. It is not available from American Honda Motor Co., Inc. and must be purchased from other sources.

DESCRIPTION	APPLICABILITY
Mityvac® Brake Bleeding Kit	Disc brake models only: Hand operated vacuum pump designed for bleeding the brake system. See General STN #18 for details.

AMERICAN HONDA MOTOR CO., INC.
SERVICE DEPARTMENT



CB/CM450 #2
DECEMBER 1982

SERVICE BULLETIN

AMERICAN HONDA MOTOR CO., INC. MOTORCYCLE SERVICE DEPARTMENT

1982 CM450A DRIVEABILITY PERFORMANCE IMPROVEMENT

Under part-throttle at low speeds some CM450 Automatic owners may experience poor driveability. This condition can be improved by installing a vacuum cylinder Spring Collar Kit and the wider-gapped spark plugs specified for 1983 450's.

INSTALLATION:

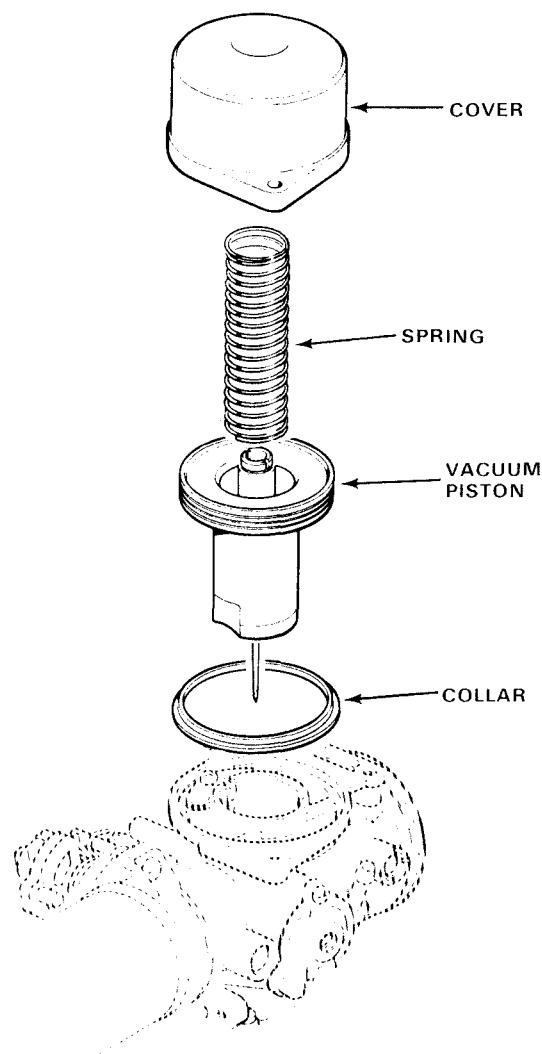
1. Remove the fuel tank.

WARNING Gasoline is extremely flammable and is explosive under certain conditions. Do not smoke or allow flames in the area.

2. Disconnect the cylinder head cover breather hose.
3. Remove the vacuum cylinder cover, spring, vacuum piston and collar.

NOTE: Be sure to keep the carburetor parts separated — left and right — for proper reassembly.

4. Install the new spring and collar into each carburetor. (Hold the removed parts for DSM inspection.) Reassemble the carburetors in the reverse order of disassembly.
5. Reconnect the cylinder head cover breather hose.
6. Reinstall the fuel tank, then check that there are no fuel leaks.
7. First check the gap (0.8 – 0.9 mm, 0.032 – 0.036 in), then install the new spark plugs.
8. Start the bike and let it warm up. Check the idle speed and adjust if necessary.



(over)

American Honda Motor Co., Inc. 1982 - All Rights Reserved

MTB 5214 8212

ROUTING:

COPY 1

COPY 2

☐ GENERAL MANAGER

☒ SERVICE MANAGER

☐ SALES DEPT.

☒ MECHANICS

☐ OFFICE FILE

☒ SHOP MANUAL

CB/CM450 #2
DECEMBER 1982

PARTS INFORMATION

HONDA CODE	PART NUMBER	DESCRIPTION
1424621	16020-MC1-305	Spring Collar Kit
1096825	98069-58926	Spark Plug X24EPR-U9 (ND)
1103084	98069-58916	Spark Plug DPR8EA-9 (NGK)

WARRANTY INFORMATION

Use Warranty Claim Form WO2 with a total time of 0.3 hours. Fill in the claim as shown below.

ALL PARTS ARE NEW UNLESS OTHERWISE NOTED

REPAIR PARTS AND LABOR

A1 CM450A Driveability Improvement

HONDA CODE	DEF. CODE	1	CODE (LABOR)	TIME	TOT. PTS
1424621	35	2	0	0.3	0

FOLLOWING PARTS REPLACED DUE TO ABOVE CAUSE

QTY	HONDA CODE	DESCRIPTION OF PARTS	DEALER NET
1	1424621	Spring Collar Kit	
2		Spark Plugs	

Fill-in the correct H/C (NGK or ND)

DESCRIPTION OF DEFECTS

Driveability

Repair per Service Bulletin CB/CM450 #2

WO2 REV. 5-80

Special Labor or Sublet Repairs

Warranty coverage for motorcycles beyond the normal warranty period (6-month unlimited mileage) must be authorized by your District Service Manager.

On your claim form, be sure to fill in the following items:

- 5-digit claim number
- Dealer number
- 17-digit frame number
- 7-digit engine number

AMERICAN HONDA MOTOR CO., INC.
 SERVICE DEPARTMENT